

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME
MITIGATED NEGATIVE DECLARATION

FOR

THE 2011 FISHERIES RESTORATION GRANT PROGRAM
IN
DEL NORTE, HUMBOLDT, MARIN, MENDOCINO, NAPA, SAN LUIS OBISPO, SANTA BARBARA,
SANTA CRUZ, SISKIYOU, SONOMA, AND TRINITY COUNTIES
AND
REQUIRED AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

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This Report Has Been Prepared Pursuant to the
California Environmental Quality Act of 1970
State of California
The Resources Agency
Department of Fish and Game

INITIAL STUDY
AND
MITIGATED NEGATIVE DECLARATION
FOR
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The Project: This project uses grant funds approved by the California Legislature to initiate activities that are designed to restore salmon and steelhead habitat in coastal streams and watersheds. Years of poor land management within California's watersheds which combined with natural events has altered native habitats. This has limited the ability of fish to survive and successfully reproduce in coastal streams that historically produced large populations of salmon and steelhead. This proposed project is designed to increase populations of wild anadromous fish in coastal streams by restoring their habitat.

The project objective is to improve spawning success for adult salmon and steelhead as well as to increase survival for eggs, embryos, and rearing juvenile salmonids. Bank erosion and riparian enhancement treatments improve spawning conditions and embryo survival by reducing sediment yield to streams. Upslope road decommissioning or upgrading also help address these widespread problems. The replacement of migration barriers at stream crossings with bridges or natural stream bottom culverts allow adult and juvenile salmonids access to additional spawning and rearing habitats. The installation of instream habitat improvement structures recruit and sort spawning gravel for adult salmon and steelhead, and create summer rearing pool and over-wintering habitat for juveniles.

The Finding: Although the project may have the potential to cause minor short-term impacts on soil, vegetation, wildlife, water quality, and aquatic life, the measures that shall be incorporated into the project will lessen such impacts to an insignificant level (see initial study and environmental checklist).

Basis for the Finding: Based on the initial study, it was determined that there would not be significant adverse environmental effects resulting from implementing the proposed project. In addition, the project is expected to achieve a net benefit to the environment by enhancing and maintaining quality salmonid spawning and rearing habitat in the eleven-county project area.

The Department of Fish and Game (DFG) finds that implementing the proposed project will have no significant environmental impact.

Therefore, this mitigated negative declaration is filed pursuant to the California Environmental Quality Act (CEQA), Public Resources Code Section 21080 (c2). This proposed mitigated negative declaration consists of all of the following:

- **Introduction - Project Description and Background Information**
- **Initial Study Environmental Checklist Form**
- **Explanation of Response to Initial Study Environmental Checklist Form**
- **Appendix A.**
 - **Table A-1 Exempt Items**
 - **Table A-2 Major Items**

- **Appendix B. Mitigation Measures, Monitoring and Reporting Program For the 2011 Fisheries Restoration Grant Program**
- **Appendix C. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities**
- **Appendix D. Procedure for the Programmatic Evaluation of Paleontological Resources for the Fisheries Restoration Grant Program**
- **Appendix E. Procedure for the Programmatic Evaluation of Archaeological Resources for the Fisheries Restoration Grant Program**

DETAILED PROJECT DESCRIPTION AND BACKGROUND INFORMATION
FOR
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INTRODUCTION

The 2011 Fisheries Restoration Grant Program in Del Norte, Humboldt, Marin, Mendocino, Napa, San Luis Obispo, Santa Barbara, Santa Cruz, Siskiyou, Sonoma, and Trinity Counties (FRGP) is a "project" subject to review under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The FRGP involves funding, in whole or in part, of 88 habitat restoration items. These 88 restoration items are divided into 54 action items and 34 non-physical items.

The 54 action items, which are discussed in detail in the environmental analysis that follows (listed in Appendix A, Table A-2) are the principal focus of the environmental analysis set forth below.

The 34 non-physical habitat restoration-related activities are exempt from CEQA and are implemented within various counties of the DFG FRGP region. These action items have no prospect of direct or indirect physical changes to the existing environment, and involve the award of grants for watershed evaluation, assessment and project planning. (See generally *Id.*, § 21102; Cal. Code Regs., title 14, § 15262.). Each of these exempt action items are identified in Appendix A, Table A-1.

This initial study and the mitigated negative declaration (MND) analyze the environmental impacts that might result from implementation of the proposed FRGP. The initial study and MND also serve to address potential environmental impacts that may occur to the extent an individual restoration activity requires a Streambed Alteration Agreement (SAA) from the California Department of Fish and Game (See Fish and Game Code, § 1600 et seq.). Construction of all or a portion of some of the individual restoration activities may actually occur in subsequent years, depending on the terms for each respective individual grant provided by the DFG.

PROJECT
GOAL AND OBJECTIVES

The primary goal of this restoration program is to maintain and restore natural watershed processes that create habitat characteristics favorable to salmonids.

The objectives of the restoration program action items are to enhance the capability of streams to produce wild anadromous salmonids by maintaining, restoring, and improving stream habitat essential to salmonid production.

Finally, it is the DFG's objective to implement this project while not causing a significant adverse effect on the environment, or reducing the number or restricting the range of an endangered, threatened or rare species.

BACKGROUND

The DFG may grant funds for habitat restoration to public and nonprofit organizations, and Native American tribes. Sections 1501 and 1501.5 of the Fish and Game Code pertain to activities funded by the DFG.

The FRGP was established in 1981 and is administered by the DFG. This program was initiated by the precipitous drop in the population of fish in coastal streams, mainly salmon and steelhead. This program was developed as a mechanism to administer grant funds designated for the restoration of fish populations. Through the past several decades to the present time, funds allocated by the California Legislature have been used in this grant program in an effort to rebuild fish populations (see Fish and Game Code Section 6900 et seq.). Initially, grants were awarded in three categories: stream restoration, fish rearing, and education. Since 1997, a more holistic restoration approach has been emphasized that facilitates habitat enhancement throughout the watershed.

There are many factors responsible for the decline of California coastal salmon and steelhead stocks. One important factor is the degradation of stream habitats. Activities in watersheds including logging, mining, road building, livestock grazing, water diversions, and dam construction have seriously impacted the ability of fish to survive and reproduce. For example, excessive fine-sediment has reduced egg and fry survival, removal of riparian vegetation has contributed to increased water temperatures, habitats have been impaired by water diversions, and culverts and dams have blocked fish passage. Habitat destruction has been instrumental in drastically reducing native anadromous fish populations. Natural events such as wildfire, drought, and floods have exacerbated these problems and accelerated the alteration of habitat further. The resulting decline in fish populations has caused extreme financial hardship to a once thriving commercial fishery and drastically reduced, or in some cases eliminated, a very popular sport fishery. Poor ocean conditions resulting in the collapse of the marine food chain along with the various factors stated above has culminated in the population crash of the Central Valley Chinook salmon in 2008 and 2009. This event prompted the closure of recreational and commercial ocean salmon season in 2008 and 2009. Most stocks have been reduced to the point where listing under the Federal and State Endangered Species Acts has become necessary.

The FRGP was instituted as the critical need to restore salmon and steelhead habitat was recognized. Guided by the *California Salmonid Stream Habitat Restoration Manual* (Flosi et al., 1998, 2003, 2006 and 2009), hundreds of habitat restoration actions funded by the FRGP have been completed by government agencies, Indian Tribes and nonprofit groups. Activities have included revegetation with livestock exclusion fencing, riparian planting, removal of barriers to fish passage, bank stabilization and other bank protection structures, decommissioning of roads, and improving drainage systems on existing roads. Instream structures such as boulder clusters, wing deflectors, and log cover have also been used. Road crossings that have impeded fish migration have been replaced with bridges or culverts with natural stream bottoms allowing fish to access additional stream reaches. Finally, other watershed improvement activities include installation of fish screens to prevent entrainment of juvenile salmon and steelhead. These actions create spawning and nursery habitat, provide escape cover and prevent fine sediments from entering streams. Project monitoring has shown significant habitat improvements in streams where this work has taken place. A gradual rebuilding of salmon and steelhead populations is expected as this program continues.

PROJECT LOCATION

Activities performed in the FRGP typically occur in watersheds that have been subjected to significant levels of logging, road building, mining, grazing, and other activities that have reduced the quality and quantity of stream habitat available for native anadromous fish.

Coastal watersheds previously dominated by mature redwood and Douglas fir forests, contain extensive road and skid trail systems from tractor logging. These previous mature, forested areas can now be found in various seral stages of vegetative recovery and are predominate in the coastal FRGP region. Action items are implemented within the stream course to improve fish habitat. Upslope restoration actions improve fish habitat by reducing the input of fine sediment to the stream environment.

Inland locations are usually in watersheds dominated by pine and fir forests, often with steep unstable terrain; some inland locations are in valley areas in agricultural use. Most restoration activities are intended to reduce sediment delivery to streams, and provide spawning and rearing habitat in the streams. Streams flowing through valley areas will be treated to stabilize stream banks and increase riparian vegetation.

SCHEDULE

The activities carried out in the FRGP typically occur during the annual period of dry weather. Stream work is normally confined to the period of June 15 through November 1 or the first significant rainfall, whichever comes first. This is to take advantage of low stream flows and is outside the spawning and egg/alevin incubation period of salmon and steelhead.

Generally, upslope work occurs during the same approximate period. Road decommissioning and other sediment reduction activities are dependent on soil moisture content. Equipment access on dirt roads, and the ability of equipment to move soil, is inhibited by wet conditions. The scheduling of upslope work may also be affected by the avoidance of nesting or breeding seasons of birds and terrestrial animals.

Some activities may continue after November 1, but only where no impact, or less than significant impacts, will result. This will primarily involve hand-planting of tree seedlings, which typically does not begin until December 1, and may continue until the end of March. Planting during the wet season is necessary to ensure the best survival of seedlings.

PROJECT DESCRIPTION

The DFG releases an annual Proposal Solicitation Notice (Solicitation) for proposals for fishery restoration, and watershed assessment and planning work throughout California. Following initial review by the DFG Technical Review Team (TRT), proposals are sent to appropriate fishery staff for field review, comment, and scoring, using standardized evaluation criteria. The evaluation process requires consideration of benefits to the fishery resources, the benefit for targeted species, project costs, and positive or negative impacts to the environment. The need for work in particular drainages or sites is evaluated and reviewed by the TRT utilizing the watershed assessment and planning work funded through the program, and from other DFG and agency programs at work in California. The proposals, technical scores, and comments are forwarded to the California Coastal Salmonid Restoration Grants Peer Review Committee (PRC). The PRC also evaluates and scores each proposal, and makes the final recommendations for funding priorities. After CEQA review is completed the Director of the DFG reviews the recommendations of the PRC, and makes the final funding decision. Grants are written for the approved action items.

The FRGP operates under two Regional General Permits (RGP) issued by the U.S. Army Corps of Engineers (USACE). RGP12 (file number: 2003-27922N) was issued in 2010 by the USACE San Francisco District and covers action items implemented within the regulatory boundaries of the San Francisco District. RGP78 (file number: SPL-2003-01123-BAH) was issued in 2009 by the USACE Los Angeles District and covers action items implemented within the regulatory boundaries of the Los Angeles District. The RGP's allow the DFG, grantees, and other individuals and groups to conduct fishery habitat restoration activities using methods described in the *California Salmonid*

Stream Habitat Restoration Manual (Flosi et al 1998, 2003, 2006 and 2009) that have been evaluated by DFG biologists. The National Oceanic and Atmospheric Administration (NOAA - formerly NMFS) and the US Fish and Wildlife Service (USFWS) have issued biological opinions, which are incorporated into the corresponding RGP's. The biological opinions address the impacts of the DFG's FRGP and stipulate the mitigations that shall be implements to avoid and/or minimize impacts to listed species.

The FRGP shall submit an annual application for a programmatic Section 401 Certificate to the State Water Resources Control Board. A description of project work and methods to prevent impacts on water quality shall be provided annually to the State Water Resources Control Board, and to the appropriate regional boards.

The DFG's lake and stream alteration agreement process (Fish and Game Code Section 1600 et seq.) is an integral part of stream restoration planning and implementation. An agreement is developed for each action item which defines required measures to minimize disturbance to the stream environment. Procedures to accomplish this task are contained in the DFG Lake and Streambed Alteration Program (1600) webpage <http://www.dfg.ca.gov/habcon/1600/>. Activities such as installing replacement culverts to provide fish passage, operating equipment in or near streams, and installing bank stabilizing structures are all discussed in the context of minimizing impacts, and all required measures for species protection discussed in this document are incorporated into the agreement for each project.

All features of this project requiring CEQA review are being provided in sufficient detail to facilitate public review and clearly define the environmental evaluation. In order to achieve this goal, the FRGP action items are considered to fall into two categories corresponding to similar activities and requirements for CEQA review. These two categories of action items are as follows:

Public Involvement, Planning, Research, Monitoring, and Habitat Acquisition – Exempt Action Items

Exempt action items (exempt items) in this category include watershed evaluation, assessment, planning, and habitat acquisition projects. The names of 34 exempt items in this category are presented in a list in Appendix A, Table A-1: Exempt Items. These exempt action items all qualify as either statutory or categorical exemptions under CEQA Guidelines sections 15262 (Feasibility and Planning Studies), 15306 (Information Collection), and 15313 (Acquisition of Lands for Wildlife Conservation Purposes). These exempt action items have no potential to change any physical conditions including land, air, water, minerals, plants, animals, ambient noise, historic sites, or aesthetics. Based on these facts, these types of action exempt action items will not be discussed further in this document.

Restoration Element - Major Action Items

There is a notable difference in the level of activity found under this category. The names of the 54 major action items (action items) in this category are presented in a list in Appendix A, Table A-2: Action Items. A detailed description of each action item in this element is also located in Appendix A, sorted by county.

Stream bank stabilization may include the use of boulder and cobble armoring of eroding banks, log cribbing, willow mattresses, or willow siltation baffles. Revegetation of riparian habitat normally involves the use of willow sprigs or willow or alder seedlings or transplants to stabilize banks and slopes, promote long-term shade and channel stability, and enhance large-wood recruitment. Indigenous stocks (when available) shall be used for all planting projects. Upslope earthmoving and culvert replacement require large size material and increased volumes to be moved by heavy

equipment and, in so doing, involve certain limited construction activities. The techniques that are used for these action items have proven successful on many coastal streams and are detailed in the current version of the *California Salmonid Stream Habitat Restoration Manual*. This manual describes in detail how the work shall be performed in the field.

Typically, these stream habitat restoration activities use dump trucks to deliver logs, root wads, or quarry rock to staging areas, and front-end loaders to deliver material to restoration sites. Existing stream crossings are used to access the stream in most cases. If stream crossings do not exist, the least damaging access points are selected based upon the size, type, and density of riparian vegetation. Where use of such access points is necessary, riparian vegetation can be affected, particularly the upper part of plants may be damaged, with the roots and lower parts receiving minimal damage. Plants damaged in this way usually re-sprout and recover. Access to restoration activity sites are identified before implementation of the action item and shall not create bank erosion or cause the removal of riparian trees. Staging areas at the activity sites are set up on dry stream banks where there is a minimum, and less than significant, impact to vegetation. Disturbed or bare mineral soils resulting from work activities, which are subject to surface erosion, are seeded and straw mulched.

Hydraulic excavators or backhoes may be used to excavate trenches or keyways in stream banks to anchor logs or boulder structures. Excavators are used to place materials, construct instream structures, and stabilize stream banks with boulders and logs. Willow cuttings are usually placed into the keyway trenches around the logs or boulders and then the trench is backfilled with cobble and native soil. This procedure anchors the structure into the stream bank, accelerates the establishment of willows around the structure, and prevents the stream from scouring around the newly placed structure.

Action items that stabilize stream banks or small stream-side landslides shall armor and buttress the landslide or stream bank using boulders, logs, root wads, and loose rock revetment. Revetments are designed with logs, root wads, and boulders that extend into the stream to provide instream cover and velocity breaks for salmonids. Smooth riprap, however, which accelerates water velocities along the stream bank, is not permitted under this program. When practical, the bank will be sloped back to a minimum 1.5 to 1 slope. A toe trench will be excavated at the toe of the landslide or eroding bank. The excavated trench shall be backfilled with boulders and will extend up to the high-water mark. Rock from the toe trench, up to the high-water mark, shall be of a size that will withstand normal high flows. Revetment shall extend upstream and downstream of the unstable reach and shall be keyed into the stable banks.

Runoff from above the slide or eroding banks shall be diverted away from the area being stabilized. The slide face shall be re-vegetated using indigenous plants. Willow cuttings shall be placed in the toe trenches. Browse protectors shall be used on seedlings to prevent predation by browsing animals.

All work, except for the revegetation, shall take place during the summer and fall (low flow period) and shall be completed by November 1 or before the first significant seasonal rainfall, which ever comes first. Planting of seedlings takes place after December 1, or when sufficient rainfall has occurred, to ensure the best chance of survival of the seedlings, but in no case later than April 15. All habitat improvements shall be done in accordance with techniques described in the *California Salmonid Stream Habitat Restoration Manual*.

Upslope action items upgrade or decommission roads by implementing all or part of the following tasks: road ripping or decompacting; installing or maintaining rolling dips (critical dips); installing or maintaining waterbars and crossroad drains; replacing, maintaining or cleaning culverts; outsloping roadbeds; re-vegetating work sites; and excavating stream crossings with spoils stored on site or end-hauled.

Sites which are expected to erode and deliver sediment to the stream are the only locations where work shall be authorized under this category. Work shall not be authorized to improve aesthetic values only.

Removal of road and skid trails shall include retrieving unstable material sidecast during original road construction and excavation of stream crossings and other watercourse fill. Stream crossings shall be excavated to original width, depth, and slope to expose natural channel morphology and armor. Side slopes will generally match original contours above and below the road. Culverts that are replaced in fish bearing reaches of streams shall be done in a manner to allow for unimpeded upstream and downstream fish passage.

When fill material is placed on road benches for permanent storage, the road bench shall be ripped or decompacted first. The fill shall then be placed against the cutbank and shaped to blend with the surrounding topography that existed prior to road construction. Outsloping of the roadbed will occur as needed, to reduce potential sediment delivery to the stream where there is insufficient fill available to recontour the site, or where there is evidence that the overall long-term stability of the site does not justify a full recontour treatment. Where practical, fill shall be compacted to the top of the filled cut to reduce the potential for fill cut failure. Spoil material shall be stored in stable locations where it will not erode. If stable spoils storage sites are not available within the project area, they will be end-hauled to a stable storage site outside of the project area. Areas chosen for this purpose shall be devoid of tree and shrub vegetation. Upon completion of each site, woody debris shall be scattered over the surface of the restored area as mulch.

Road crossing removal may involve some removal of vegetation that has grown in sediment that has been deposited upslope of road prisms. Most of this vegetation shall be used as coarse wood mulch on bare soils to reduce surface erosion. Some of the material shall be transplanted on-site as one component of the restoration action items. In all cases, disruption of existing vegetation shall be minimized.

Culvert replacement requires diverting stream flow around the project site and excavating the existing culvert with heavy equipment. Normally concrete footings are constructed to support a new bottomless culvert or bridge. If appropriate, grade control structures are incorporated into the project area to prevent excessive down-cutting of the stream. All work concerning culvert replacement shall be consistent with current DFG and NOAA criteria concerning fish passage. Current NOAA fish passage guidelines can be found on the web at: <http://swr.nmfs.noaa.gov/hcd/NMFSSCG.PDF>. DFG fish passage guidelines can be found in Part IX of the *California Salmonid Stream Habitat Restoration Manual*, available at <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.

Fish screens are constructed within existing irrigation diversions to prevent entrainment of juvenile salmon and steelhead. Fish screens are composed of a concrete foundation and walls. A steel framework supports perforated screen panels with a mechanical cleaning system. A bypass carries the fish back to the stream. Current NOAA and DFG fish screen criteria can be found in Appendix S of the *California Salmonid Stream Habitat Restoration Manual*.

Appendix A contains a list of major action item titles, locations, and descriptions of work that shall be implemented at each site. The action item designs are reviewed by the DFG and are implemented by grantees utilizing heavy equipment and some hand labor crews. During a pre-project inspection, the grantee and the DFG will tour the entire activity area and identify the sites and techniques necessary to carry out the recommendations. The site-specific recommendations shall be listed in an inspection report which will be acknowledged by the grantee's signature, as a required element of the activity. The DFG shall continue to inspect the work site during and after completion of the action item. All road upgrading or decommissioning shall be done in accordance with techniques described in Part X of the *California Salmonid Stream Habitat Restoration Manual*, available at <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>. All culvert replacement projects shall be

done in accordance with techniques and criteria consistent with current DFG and NOAA guidelines concerning fish passage. Implementation of each major action item shall be conditioned and controlled to prevent any potentially significant impacts under CEQA.

Complete site plans and prescriptions for action and exempt items located in Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity counties are available for review at the Department of Fish and Game, Northern Regional Office at 1455 Sandy Prairie Court, Suite J, Fortuna, California 95540. For an appointment to view this information, contact Gary Flosi at (707) 725-1072, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Complete site plans and prescriptions for action and exempt items located in Alameda, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, and Sonoma counties are available for review at the Department of Fish and Game, Bay Delta Region, office of Senior Environmental Scientist, Gail Seymour, 7329 Silverado Trail, Yountville, California 94559. Appointments may be made by telephoning (707) 944-5579, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Complete site plans and prescriptions for action and exempt items located in Monterey and San Luis Obispo counties are available for review at the Department of Fish and Game, Central Region, office of Senior Biologist Supervisor, Margaret Paul, 20 Lower Ragsdale Dr. Ste. 100, Monterey, California 93940. Appointments may be made by telephoning (831) 649-2882, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Complete site plans and prescriptions for action and exempt items in Los Angeles, Orange,, San Diego, Santa Barbara, Riverside, and Ventura counties are available for review at the Department of Fish and Game, South Coast Region, office of Senior Fishery Biologist Specialist, Mary Larson, 4665 Lampson Ave, Suite C, Los Alamitos, California 90720 and 1933 Cliff Drive, Suite 9, Santa Barbara, CA 93109. Appointments may be made by telephoning (562) 342-7186, Monday through Friday, between the hours of 9 a.m. and 4 p.m.

Environmental Assessment of Each Major Action Item

Each action item is assigned to the appropriate category using the established criteria for each category. The work to be completed for each action item is carefully evaluated to make this determination. Once this evaluation process is completed, the action items described under the Restoration Element - Major Action Items section, are subjected to a systematic environmental analysis. This analysis ultimately prescribes site-specific conditions which must be applied in order to avoid potentially significant negative effects on the environment, including such effects on endangered, rare, or threatened species and their habitat.

First, all major action items listed in Appendix A shall comply with DFG policies to conduct archaeological and rare plant surveys. A qualified archaeologist(s) shall be contracted to complete the surveys using standard protocols. Rare plant surveys shall be conducted following the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (Department of Fish and Game, 2009). A review of the DFG's current California Natural Diversity Data Base (CNDDB) for each project located in the entire eleven-county programmatic project area is attached to the statement of work for each major action item listed in Appendix A and indicates which plant species found on a State or Federal special status list that could potentially be affected at the work sites. Archaeological and rare plant surveys shall be completed prior to any ground disturbing activities. If any potentially significant impact cannot be avoided, the action item shall not be implemented. Any site specific recommendations made by a DFG biologist, or other qualified biological consultant, to avoid any potentially significant impacts shall become part of the work plan and incorporated into the measures required in the issued streambed alteration agreement (Fish and Game Code Section 1600 et seq.). The DFG's grant managers shall ensure that the grantee or responsible party is aware of, and implements, these site specific conditions during routine inspections. The DFG shall inspect the work site before, during, and after completion of the action item. Any violation of the

specific recommendations shall be immediately rectified. Failure, or inability, to rectify a particular recommendation shall cause all work to cease until a remediation plan is developed that avoids the potentially significant impact.

Second, a review of the DFG's CNDDDB for the entire eleven-county project location indicated which animal species found on a State or Federal special status list may be present at the work sites. This site specific information is also attached to each statement of work in Appendix A. Mitigation measures to avoid impacts to these species are presented along with other mitigation measures in Appendix B, Mitigation Measures, Monitoring and Reporting Program. In the absence of site-specific information, species identified as having potential to be affected at a work site shall be assumed present at the work site and mitigation measures to avoid impact to that species shall be implemented.

Any site-specific surveys to confirm the presence, or absence, of a plant species at a work site will follow the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (Appendix C). Streambed Alteration Agreements and grants for each site shall be conditioned to avoid impacts to any special status species that could potentially be affected at that site. The DFG shall ensure that the grantee or responsible party is aware of all specific conditions that apply to their work site. Also, the DFG shall inspect the work site before, during, and after completion of the action item to ensure compliance with mitigation measures to avoid potential impacts to endangered, rare, or threatened species. Any violation of the specific recommendations shall be immediately rectified. Failure or inability to rectify a particular recommendation will cause all work to cease at that site until a remediation plan is developed.

Third, all major action items listed in Appendix A shall comply with DFG policies to conduct a paleontological survey. A qualified paleontologist(s) shall be contracted to complete the surveys using current accepted protocols. Research shall be done on available paleontological data repositories, review fossil resources with regional experts to identify possible areas of importance within the ten-county programmatic project area. Site specific detailed research shall be done for projects sites deemed likely to encounter paleontological resources (Appendix D). There shall be communication links between DFG grant managers. Review of evaluation surveys shall be completed prior to any ground disturbing activities. If any potentially significant impact cannot be avoided, the action item shall not be implemented. Any site specific recommendations made by a qualified paleontologist(s), or other qualified consultant, to avoid any potentially significant impacts shall become part of the work plan and incorporated into the measures required in the issued streambed alteration agreement (Fish and Game Code Section 1600 et seq.). The DFG grant managers shall ensure that the grantee or responsible party is aware of, and implements, these site specific conditions during routine inspections. The DFG shall inspect the work site before, during, and after completion of the action item. Any violation of the specific recommendations shall be immediately rectified. Failure, or inability, to rectify a particular recommendation shall cause all work to cease until a remediation plan is developed that avoids the potentially significant impact.

Through careful design, scheduling, and monitoring, any and all potentially significant impacts associated with the major action items shall be avoided or mitigated to below a level of significance under CEQA. Additional details regarding implementation of major action items, including required mitigation measures, are detailed in the environmental checklist section below.

Monitoring

Project monitoring is considered an important element in the activity development and implementation process. The monitoring process provides performance control during the activity and also helps provide a measure of the benefits, insight, and guidance for future projects.

Activity during implementation is overseen by a DFG grant manager and is geared to ensure that all regulatory environmental issues are strictly addressed including air, water, and avoiding

impacts to sensitive plant and animal species. During implementation, activities are carefully monitored to make sure plans are followed and that the correct materials and techniques are used so that the objectives of the activities are met while protecting the environment.

Post-activity monitoring begins with information collected immediately after the activity is completed and documents whether the project was completed as designed and according to the grant specifications. This information includes documenting the exact location where the activity has occurred with reference points and survey marks. Final project reports should contain "as-built" descriptions with design drawings and photographs (both before and after the activity) are collected. A complete activity description including the objectives of the activity must be retained.

The next phase of post-activity monitoring is designed to assess the efficacy of the project and shall occur within one to three years after an action item is complete. The DFG shall randomly select ten percent of the action items within each project work type for effectiveness/validation monitoring. A random sample, stratified by project type and region, shall be chosen from the pool of new restoration projects approved for funding each year. This evaluation shall be recorded on standard project evaluation forms. Effectiveness monitoring addresses the physical response associated with an activity, while validation monitoring evaluates fish response to the project. Pre-treatment monitoring shall be performed for newly selected projects, and post-treatment monitoring will be performed within three years following project completion.

Complete monitoring specifications are included on the DFG's web site, <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>. Additional details on monitoring and reporting requirements are presented in Appendix B.

REFERENCES:

California Department of Fish and Game. Lake and Streambed Alteration Program (1600) webpage <http://www.dfg.ca.gov/habcon/1600/>

California Department of Fish and Game. 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. The Resources Agency, State of California, Sacramento, CA.

Flosi, G, S. Downie, J. Hopelain, M. Bird, R. Coey, and B. Collins. 1998. *California Salmonid Stream Habitat Restoration Manual*. Third Edition. Calif. Fish and Game. The most current version of the manual is available at: <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>.

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Hagans and Weaver. 1994. Handbook for Forest and Ranch Roads. 161 p. Prepared by William E. Weaver, Ph.D. and Danny K. Hagans, Pacific Watershed Associates for the Mendocino County Resource Conservation District, 405 Orchard Ave., Ukiah, CA 95482.

ENVIRONMENTAL CHECKLIST FORM

1. Project Title: **The 2011 Fisheries Restoration Grant Program in Del Norte, Humboldt, Marin, Mendocino, Napa, San Luis Obispo, Santa Barbara, Santa Cruz, Siskiyou, Sonoma, and Trinity Counties.**
2. Lead Agency Name and Address:

California Department of Fish and Game
Fisheries Branch
830 S Street
Sacramento, CA 95811
3. Contact Person and Phone Number:

Karen Carpio (916) 327-8658 Fisheries Branch 830 S Street Sacramento, CA 95811	Gary Flosi (707) 725-1072 Northern region 1455 Sandy Prairie Ct. Fortuna, CA 95540	Gail Seymour (707) 944-5579 Bay Delta Region 7329 Silverado Trail Yountville, CA 94599
Margaret Paul (831) 649-2882 Central Region 20 Lower Ragsdale Dr. Ste. 100 Monterey, CA 93940	Mary Larson (562) 342-7186 South Coast Region 4665 Lampson Ave. Los Alamitos, CA 90720	
4. Project Location: Various sites in Del Norte, Humboldt, Marin, Mendocino, Napa, San Luis Obispo, Santa Barbara, Santa Cruz, Siskiyou, Sonoma, and Trinity counties (Appendix A).
5. Project Sponsor's Name and Address:

California Department of Fish and Game
Fisheries Branch
830 S Street
Sacramento, CA 95811
6. General Plan Designation: Various
7. Zoning: Various
8. Description of Project: Implementation of 54 action items for restoration of anadromous salmonid habitat (Appendix A). These action items include measures to improve anadromous fish passage, reduce erosion and sedimentation, enhance instream habitat, improve water quality and improve juvenile survival.
9. Surrounding Land Uses and Setting: Briefly describe the project's surroundings: Primarily forest lands used for timber production. Some action items will be located in agricultural lands.
10. Other Public Agencies Whose Approval Is Required: U.S Army Corps of Engineers, North Coast Regional Water Quality Control Board, San Francisco Bay Regional Water Quality Control Board, and Central Coast Regional Water Quality Control Board.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input type="checkbox"/>	Air Quality
<input type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards and Hazardous Materials	<input type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Utilities/Service Systems	<input type="checkbox"/>	Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required

Terry Foreman, Chief, Fisheries Branch

Date

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXPLANATION OF RESPONSES TO INITIAL STUDY ENVIRONMENTAL CHECKLIST

I. AESTHETICS

- a) The project will not have an adverse effect on a scenic vista. Such an impact will not occur because the project will stabilize, restore, and re-vegetate damaged and eroded sites to produce a more natural and esthetically pleasing appearance.
- b) The project will not damage scenic resources such as trees, rock outcroppings, and historic buildings. Such an impact will not occur because the project will not disturb large trees or other scenic features in the process of restoring damaged sites.
- c) The project will not substantially degrade the existing visual character or quality of the work sites and their surroundings. Such an impact will not occur because in most cases the restoration project will restore the natural character of disturbed sites. Where non-natural structures (such as fish screens) are constructed, they will be of small size and compatible with the appearance of with their surroundings.
- d) The project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area of the worksites. Such an impact will not occur because none of the restoration project action items require installation of artificial lighting.

II. AGRICULTURE RESOURCES

- a) The project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. Such an impact will not occur because most project worksites are located away from FMMP designated farmland. Project actions associated with farmland (such as fish screens) are designed to allow continued use of farmland with reduced impacts to anadromous salmonids.
- b) The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. Fish habitat restoration actions will not change existing land use.
- c) The project will not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timber zoned Timberland Production. Fish habitat restoration actions will not change existing land use.
- d) There will be no loss of forest land and the project will not result in the conversion of forest land to non-forest use. Road decommissioning projects in forest land will reduce fine sediment delivery to the streams while restoring forest land by planting with native vegetation.
- e) The project will not involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use. Fish habitat restoration actions are either away from, or are compatible with, existing agricultural uses.

III. AIR QUALITY

- a) The project will not conflict with or obstruct implementation of the applicable air quality plan. Such an impact will not occur because implementation of the project does not create any features that would be a source of air pollution. Use of vehicles and heavy equipment during construction will be on a limited scope and a short duration and is not expected to adversely affect air quality.

- b) The project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Such an impact will not occur because of the limited scope of construction activities and the fact that work sites are located in rural areas that are in overall attainment of air quality standards.
- c) The project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). Such an impact will not occur because the project involves no ongoing sources of air pollution.
- d) The project will not expose sensitive receptors to substantial pollutant concentrations. Such an impact will not occur because the project will not significantly increase pollutant concentrations.
- e) The project will not create objectionable odors affecting a substantial number of people. Project actions are designed to restore natural habitat conditions for salmonids, and will not create any stagnant water that might produce objectionable odors.

IV. BIOLOGICAL RESOURCES

- a) The project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, National Marine Fisheries Service or U. S. Fish and Wildlife Service. Such an impact will not occur because project activities are designed to improve and restore stream habitat, to provide a long-term benefit to both anadromous salmonids and other fish and wildlife. The project will be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals and cultural resources during construction; the mitigation measures that will be implemented to avoid short-term impacts to rare plants and animals and cultural resources are described in Appendices B, C, D, and E. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

Species Impacts for the following species include (mitigation measures are included in Appendix B):

- i) Point Arena mountain beaver (*Aplodontia rufa nigra*). The Point Arena mountain beaver (PAMB) is a burrowing rodent found in coastal Mendocino County, in an area of approximately 24 square miles (from about 2 miles north of Bridgeport Landing south to about 5 miles south of the town of Point Arena, and from the coast to about 5 miles inland). Mountain beaver inhabit underground burrow systems, associated with moist areas with well drained soils and lush herbaceous vegetation. PAMB populations are typically found in riparian, coastal scrub, or dune scrub habitats; however they may occur in any habitat with brushy or herbaceous cover. PAMB presence is evaluated by surveying for burrows of characteristic size and shape, with signs of recent activity.

Potential impacts to PAMB from salmonid habitat improvement projects include disruption of nesting or other activities due to equipment noise; collapse or damage to burrows from heavy equipment, riparian planting, or foot traffic; and removal of vegetation (such removal is usually temporary, but may nonetheless impact PAMB).

- ii) California freshwater shrimp (*Syncaris pacifica*). As an aquatic species California freshwater shrimp (CAFS) depend on the availability of slow moving perennial water and suitable habitat to survive. Habitat for CAFS as described in the Recovery Plan consists of:
 - Slow moving streams 12-36 inches in depth

- Exposed live roots of trees such as willow or alder
- Undercut banks greater than 6 inches
- Overhanging woody debris or stream vegetation and vines including stinging nettles, grasses, vine maple and mint.

Migration of CAFS is not well understood, however it is speculated that CAFS require access to slow moving waters adjacent to continuous, stable, well vegetated stream banks, or deep stable undercuts banks during winter high flows.

Salmonid restoration projects typically enhance or create habitat that is also suitable for CAFS. Stable undercut banks, well vegetated with a variety of native plant species, alongside deep perennial pools, are components of healthy riparian ecology and the end result of many restoration projects. In addition, salmonid restoration projects can remove existing threats to CAFS by:

- Eliminating grazing in the riparian corridor
- Reclaiming riparian vegetation through plantings and increased setbacks in agricultural settings
- Removing summer dams (and culverts) and replacing summer crossings with bridges
- Improving road drainage and maintenance that reduces water and sediment delivery to streams
- Reversing the impacts of flood control practices by replacing vegetation and large woody debris, and by helping restore flood plains and reducing channeling
- Stabilizing banks with vegetation that promotes CAFS habitat
- Removing migration barriers

While salmonid restoration projects typically enhance or create these habitat and instream conditions that are favorable for CAFS and associated native aquatic species, project activities in wetted stream habitats may directly impact individuals when present. Whereas project activities in dry stream habitats, will not have a direct impact on individuals. Where habitat exists, instream project activities may indirectly impact the species through the loss of habitat. Mitigation measures are implemented to avoid directly impacting individuals when present however, some short term direct and indirect impacts can occur.

Direct impacts may include

- Short term degradation of water quality at project site resulting in reduction in feeding temporarily
- Addition of instream complex shelter (large and small woody debris, boulders, aquatic vegetation) resulting in temporary dislodgement from undercut banks and vegetation
- Dewatering of project site and movement of animals from preferred habitat to nearby suitable habitat during the project

Indirect impacts may include:

- Short term loss of habitat until riparian responds
- Short term degradation of habitat
 - √ loss of unstable undercut banks
 - √ short term loss or degradation of overhanging riparian vegetation
- Introduction of migration barriers on one side of the stream

- iii) California red-legged frog (*Rana aurora draytonii*). As an aquatic species, frogs are generally present in the riparian corridor year-round, utilizing both stream and bank habitat. Impacts to the species have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, unscreened pumping, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and reintroduction of non-native species into stream. Habitat removal and/or degradation are not the result of restoration projects. Typically, removal of riparian vegetation for the

purpose of implementing a project does not occur, but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. More often, dewatering, heavy equipment usage, and work with hand tools occurs during project implementation. All impacts are temporary and can be minimized to avoid take of the species.

- iv) Least Bell's vireo (*Vireo bellii pusillus*). Impacts to the species have the potential to occur when as a result of removal of riparian vegetation (willows and low shrubs) during the spring and summer or from disturbance within a 0.25 mile radius of next sites. Typically removal of riparian vegetation for the purpose of implementing a project does not occur, but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. Removal of willow branches for revegetation at restoration sites has the potential to degrade existing vireo habitat. Noise from heavy equipment has the potential to cause nesting birds to abandon nests. All impacts are temporary and can be minimized to avoid take of the species.
- v) Tiger salamander (*Ambystoma tigrinum*). Impacts to the species are highly unlikely as most implementation projects occur in or near the stream and riparian corridor. Upslope projects are typically limited to road upgrading and decommissioning in areas that are steep, eroding, and often in areas vegetated with trees and shrubs. The species uses ponds and vernal pools for breeding and grassland habitat for estivation, both of which are usually not in proximity to anadromous fish-bearing streams.
- vi) Coho salmon, Chinook salmon, Steelhead, and Coast cutthroat trout. Habitat loss and modification are believed to be the major factors determining the current status of salmonid populations. Conservation and recovery of salmonid depend on having diverse habitats with connections among those habitats. The salmonid lifecycle involves adults maturing in the ocean, migrating back to their home streams and spawning, embryos incubating, fry emerging, juveniles growing, and smolts migrating to the estuary to acclimate to saltwater and moving out into the ocean. While all of the work proposed under this program will enhance habitat for one or more of these species impacts to the species have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, disturbance of banks, and fish relocation. All impacts are temporary and can be minimized to avoid take of the species.
- vii) Arroyo Toad (*Bufo microscaphus californicus*). The Arroyo Toad inhabits coastal southern California from Salinas River Basin in Monterey and San Luis Obispo Counties to Arroyo San Simón in northern Baja California, México. This toad prefers riparian habitats with sandy streambeds with cottonwood, sycamore, and willow trees. Some populations occur in streams within coniferous forests. The stream setting usually has adjacent shallow pools where the toad may sit in the water while partially exposed above. These toads are most active during late winter and early spring after seasonal rains. Early in their activity season, toads forage to prepare for breeding. Impacts to the species have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, unscreened pumping, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and reintroduction of non-native species into stream. Habitat removal and/or degradation is not the result of restoration projects. Typically, removal of riparian vegetation for the purpose of implementing a project does not occur, but is minimal when it does. Projects can involve restoring the riparian corridor that is absent. More often, dewatering, heavy equipment usage, and work with hand tools occurs during project implementation. All impacts are temporary and can be minimized to avoid take of the species.
- viii) Tidewater Goby (*Eucyclogobius newberryi*). The tidewater goby is a small, elongate, grey-brown fish with dusky fins not exceeding 50 millimeters standard length (mm SL). The species, which is endemic to California, is typically found in coastal lagoons, estuaries, and

marshes with relatively low salinities. Its habitat is characterized by brackish shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. However, tidewater gobies can withstand a range of habitat conditions: they have been documented in waters with salinity levels from 0 to 42 parts per thousand, temperatures from 8 to 25° Celsius, depths from 25 to 200 centimeters, and dissolved oxygen levels of less than one milligram per liter.

Tidewater gobies may range upstream into fresh water, up to two kilometers from the estuary. In San Antonio Creek and the Santa Ynez River, Santa Barbara County, tidewater gobies are often collected five to eight km upstream of the tidal or lagoonal areas, sometimes in beaver impounded sections of streams. Conversely, tidewater gobies enter marine environments if sandbars are breached during storm events. The species' tolerance of high salinities likely enables it to withstand the marine environment, allowing it to colonize or re-establish in lagoons and estuaries following flood events.

Reproduction peaks from late April or May to July and can continue into November or December depending on the seasonal temperature and rainfall. Males begin the breeding ritual by digging burrows (75 to 100 mm deep) in clean coarse sand. Females then deposit eggs into the burrows, an average of 400 eggs per spawning effort (Swenson 1998 in press). Males remain in the burrows to guard the eggs. Males frequently forgo feeding during this period, possibly contributing to the mid-summer mortality noted in some populations. Within nine to ten days larvae emerge at approximately five to seven mm SL. The larvae live in vegetated areas within the lagoon until they are 15 to 18 mm SL, when they become substrate oriented, spending the majority of time on the bottom rather than in the water column. Both males and females can breed more than once in a season, with a lifetime reproductive potential of 3 to 12 spawning events.

The decline of the tidewater goby can be attributed primarily to urban, agricultural and industrial development in and surrounding the coastal wetlands and alteration of habitats from seasonally closed lagoons to tidal bays and harbors. Some extirpations are believed to be related to pollution, upstream water diversions, and the introduction of exotic fish species (most notably sunfishes and black basses [Centrarchidae]). These threats continue to affect some of the remaining populations of tidewater gobies. Tidewater gobies have been extirpated from several water bodies that are impaired by degraded water quality (e.g., Mugu Lagoon, Ventura County), but still occur in others (e.g., Santa Clara River, Ventura County).

Measures to reduce impacts to tidewater goby habitat will include adjusting the timing of projects to avoid disruption to breeding activities, the use of silt fencing to reduce sediment loads and as barricades around project sites, installing coffer dams above and below project sites and translocating individual tidewater gobies found within the exclosures prior to dewatering, minimization of project areas, and requiring qualified biologists to oversee project activities.

- b) The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies and regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service. Such an impact will not occur because the project actions are designed to correct past habitat degradation and restore and enhance riparian habitat and associated upland habitats.
- c) The project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. The project actions will have either no effect on wetlands or will be beneficial to wetlands.

- d) The project will not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The project will enhance the movement of anadromous fish by the replacement or removal of culverts and bridges that are barriers to fish migration.
- e) The project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Such an impact will not occur because project actions are designed to restore and enhance biological resources. Some minor disturbance of grasses and shrubs will occur where stream structures are keyed into the stream banks. Care will be taken not to disturb any mature trees. Riparian vegetation will be reestablished where construction activities disturb existing plants, and additional native plants will be planted to enhance the riparian vegetation.
- f) The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Such a conflict will not occur because the project restoration actions will not have a significant adverse impact on any species or habitat. Project actions are designed to restore the natural character of the fish and wildlife habitat at the project work sites. The project specifically supports the California Salmon, Steelhead Trout and Anadromous Fisheries Program Act (Fish and Game Code Section 6900 et. seq.)

V. CULTURAL RESOURCES

- a) The project will not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect historical resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B and E. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- b) The project will not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect archaeological resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) The project will not directly or indirectly destroy any unique paleontological resources or sites, or unique geologic features. While ground disturbance to implement the project at some work sites has the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B and D. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- d) The project will not disturb any human remains, including those interred outside of formal cemeteries. While ground disturbance will be required to implement the project at some work sites that have the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B. Resources identified during site-specific surveys will be protected before ground-disturbing activities are

permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

VI. GEOLOGY AND SOILS

- a i) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault. Such an impact will not occur because the project does not create any structures for human habitation.
- a ii) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Such an impact will not occur because the project does not create any structures for human habitation.
- a iii) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Such an impact will not occur because the project does not create any structures for human habitation.
- a iv) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Such an impact will not occur because the project does not create any structures for human habitation.
- b) The project will not result in substantial soil erosion or the loss of topsoil. Such an impact will not occur because implementation of the restoration project is designed to contribute to an overall reduction in erosion and sedimentation. Existing roads will be used to access work sites. Ground disturbance at most work sites will be minimal, except for road improvements or decommissioning. Road improvements and decommissioning will involve moving large quantities of soil from road fills and stream crossings to restore historic land surface profiles and prevent chronic erosion and sediment delivery to streams. The potential for substantial soil loss associated with road improvement and decommissioning will be avoided through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) Some project worksites are on unstable soils; however, the project will not increase the risk of landslides, lateral spreading, subsidence, liquefaction, or collapse. The project actions are designed to stabilize conditions at these sites in order to reduce sediment delivery to salmonid habitat. Actions implemented to stabilize sites may not be successful in all cases, but site instability will not be increased when compared to existing conditions.
- d) Some project work sites will be located on expansive soil; however, the project will not create substantial risks to life or property. Such an impact will not occur because the project will create no habitations, and the majority of the restoration actions will not create rigid structures that could be damaged by expansive soils. The few rigid structures to be created by the project (such as fish screens) will be engineered to withstand expansive soils, if they are present.
- e) The project will not create any sources of waste water requiring a septic system.

VII. GREENHOUSE GAS EMISSIONS

- a. The project will emit greenhouse gases (GHG) through the use of fuel to operate vehicles and heavy equipment. While there will be GHG emissions, the impacts will not be significant. The threshold by which project-related greenhouse gas impacts would be considered significant is whether project-related impacts will impair California's ability to achieve the reduction goals established by Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006. AB 32 establishes a statewide greenhouse gas emissions cap for 2020, based on the 1990 emissions (California Climate Change Portal). In 1990, California's CO₂ emissions were estimated to be 364.32 million metric tons of CO₂ (http://www.epa.gov/statelocalclimate/resources/state_energyco2inv.html). The project will emit roughly 0.0015% of the 1990 California CO₂ emissions (5731.25 metric tons CO₂). In 2007, the California CO₂ emissions were estimated to be 4002.77 million metric tons, the project's CO₂ emissions are roughly 0.0014% of the 2007 California estimates. The difference between the percent of emissions from 2007 to 1990 is 0.0001%, thus, the emissions from the project will not have a significant effect on California's ability to achieve the reduction goals. Many of the proposed restoration activities are of short duration. Therefore, the increases in emissions from activities will only occur in the initial phases (a few days to a few weeks) when vehicular and equipment operation is necessary to carry out the restoration actions. Watershed restoration projects often are of longer duration (six to twelve weeks). The majority of this work involves decommissioning roads in forested landscapes. The decommissioned roads are re-planted with conifer. This results in the reforestation of lands that were once paved or dirt roads. The project will decommission 47.64 miles of road; thereby putting 92.39 acres of land back into tree production. The net result is 433.3 metric tons of CO₂ per acre per year will be sequestered. Furthermore, a fifty year forest harvest rotation is estimated to sequester 21,665 metric tons of CO₂ due to this project or 3.78 times as much CO₂ than if the project was not implemented. Additionally, when plants are removed to implement the restoration activity, the replanting ratio is 1:2 (for every plant removed, two native plants are planted). Initial vegetation planting may require irrigation for a year or two which could involve operating water pumps. Native habitat restoration requires little to no maintenance and therefore little to no additional greenhouse gas emissions.
- b. As stated above, the project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG. The short term impacts to the GHG levels are less than significant. Furthermore, the long term impacts to the GHG levels from re-vegetation actions will aid in decreasing the GHG levels by reforesting areas where roads have been removed and where restoration work has been done.

VIII. HAZARDS AND HAZARDOUS MATERIALS

- a) The project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Any potential significant hazard associated with the accidental release of coolant and petroleum products used with equipment during construction will be avoided through implementation of the mitigation measures presented in Appendix B. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- b) The project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant. The potential for accidental release will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B. As a result, mitigation

measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

- c) The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Such impact is avoided because the project will not create any feature that will emit hazardous substances.
- d) The project worksites are not located on any site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- e) No project work site is located within an airport land use plan or within two miles of a public airport or public use airport.
- f) No project work site is located within the vicinity of a private airstrip.
- g) The project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Except for the case of road decommissioning, the project has no effect on access. The planned decommissioning of selected unused wild land roads will not have a significant impact on emergency vehicle access.
- h) The project will not expose people or structures to a significant risk of loss, injury, or death involving wild land fires. At work sites requiring the use of heavy equipment, there is a small risk of an accidental spark from equipment igniting a fire. The potential for accidental fire will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

IX. HYDROLOGY AND WATER QUALITY

- a) The project will not violate any water quality standards or waste discharge requirements. There is the potential for minor short-term increase in turbidity during installation of instream structures or culvert removal, however the mitigation measures described in Appendix B Mitigation, Monitoring and Reporting will assure that the project actions are in compliance with water quality standards. As a result, mitigation measures will ensure that any potentially significant short-term impacts are avoided or mitigated to below a level of significance.
- b) The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Upslope restoration activities will return drainage to historic patterns thereby decreasing surface runoff and increasing infiltration to the ground water.
- c) The project will not substantially alter the existing drainage pattern of the work sites in a manner that would result in substantial erosion or siltation on- or off-site. Such an impact will not occur because the project actions are designed to produce decreased erosion overall. Instream habitat structures, such as boulder weirs or flow deflectors, will produce local redistribution of sediments. These structures will produce a local redistribution of bed load, facilitating the deposition of spawning gravel in riffles, and improving scour to maintain pools for juvenile fish habitat. This local redistribution of bed load will not produce a net increase of erosion.
- d) The project will not substantially alter the existing drainage pattern of the work sites, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The project will decrease the risk of flooding through upslope

restoration activities that will return drainage to historic patterns, thereby increasing infiltration and decreasing surface runoff.

- e) The project will not create or contribute runoff water that would exceed the capacity of existing or planned storm-water drainage systems, or provide substantial additional sources of polluted runoff. Such an impact will not occur because upslope restoration activities will stabilize slopes and return drainage to historic patterns, thereby decreasing surface runoff and decreasing the silt load delivered to streams in the area of the project.
- f) The project will not substantially degrade water quality. During placement of stream habitat structures and culvert replacement, some minor turbidity may be generated. The potential for degradation of water quality will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. Some short-term minor increase in turbidity may also occur as the streambed around instream structures adjusts during the first high stream flow following activity completion. However, this is not expected to produce a significant increase over background turbidity. As a result, mitigation measures will ensure that any potentially significant short-term impacts to water quality are avoided or mitigated to below a level of significance.
- g) The project will not place housing within a 100-year flood hazard area as mapped on any flood hazard delineation map. No housing will be created as part of this project.
- h) The project will not place within a 100-year flood hazard area structures which would significantly impede or redirect flood flows. Culvert removal and replacement to be done as part of the project will remove existing impediments to flood flows. Instream habitat structures, such as boulder weirs, deflectors, and bank armor, are built to change the direction and velocity of stream flow. However, these structures are small (sized to affect conditions in the low flow channel) and will not impede flood flows.
- i) The project will not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Such an impact will be avoided because all instream structures to be created are small and will not significantly impede flood flows.
- j) The project will not expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow. Such an impact will not occur because project actions are designed to improve or stabilize conditions at the work sites. Upslope restoration actions will reduce the chance of mudflow by stabilizing disturbed areas, and restoring natural drainage patterns. Project work sites are not located in areas at risk to inundation by seiche or tsunami.

X. LAND USE AND PLANNING

- a) The project will not physically divide an established community. This impact will not occur because no culvert removal or road decommissioning is proposed in any established community.
- b) The restoration activities that comprise this project do not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Such an impact will not occur because the project's restoration activities are designed to be compatible with local land use plans and ordinances.
- c) The project will not conflict with any applicable habitat conservation plan or natural community conservation plan. Such an impact will not occur because project actions are

designed to improve aquatic habitat conditions without adversely affecting any other species or their habitats.

XI. MINERAL RESOURCES

- a) The project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Such an impact will not occur because project actions are only designed to stabilize and restore habitat and soils within the actions area.
- b) The project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Such an impact will not occur because no mineral resource recovery sites occur at the project work sites.

XII. NOISE

- a) The project will not result in exposure of persons to, or generation of noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies. There may be a minor temporary increase in noise levels at those work sites requiring the use of heavy equipment. While such short-term increase in noise will not produce a significant increase in the noise level in the general environment, there is a potential for equipment noise to affect workers in close proximity to equipment producing noise levels ≥ 85 db, such as chainsaws or backhoes. However, such an impact will not occur because personnel operating noisy equipment will be required to wear hearing protection. As a result, mitigation measures will ensure that any potentially significant noise impacts are avoided or mitigated to below a level of significance.
- b) The project will not result in exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels. Such an impact will not occur because only minor amounts of ground-borne vibration or noise will be generated short-term at those work sites requiring the use of heavy equipment.
- c) The project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Such an impact will not occur because most project structures are passive (i.e., contain no moving parts). The only exceptions are the proposed fish screens, which will contain moving brushes to clean the screens. These brushes are driven by slow speed (10-15 RPM) water wheels and will not substantially increase ambient noise levels where installed.
- d) The project will not result in a substantial temporary, or periodic, increase in ambient noise levels in the project vicinity above levels existing without the project. Such an impact will not occur because only minor amounts of noise will be generated temporarily at those work sites requiring the use of heavy equipment. At those sites near nesting or breeding sites for listed species, heavy equipment will only be used outside the sensitive periods for nesting or breeding, as described in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant noise impacts are avoided or mitigated to below a level of significance.
- e) None of the project work sites are located within two miles of a public airport or public use airport.
- f) None of the project work sites are located within the vicinity of a private airstrip.

XIII. POPULATION AND HOUSING

- a) The project will not induce substantial population growth in an area, either directly or indirectly. Such an impact will not occur because the project will not construct any new homes, businesses, roads, or other human infrastructure.
- b) The project will not displace any existing housing and will not necessitate the construction of replacement housing elsewhere.
- c) The project will not displace any people and will not necessitate the construction of replacement housing elsewhere.

XIV. PUBLIC SERVICES

- a) The project will not have any significant environmental impacts associated with new or physically altered governmental facilities. Issuance of restoration grants to government agencies could, in some cases, lead to minor increases in staffing to complete projects. Such increases will not lead to any significant adverse impacts, because the increases are short term, and no significant construction will be required to accommodate additional staff.

XV. RECREATION

- a) The project would not increase the use of existing neighborhood and regional parks, or other recreational facilities. Such an impact will not occur because the project actions will restore anadromous fish habitat and do not significantly alter human use or facilities at existing parks or recreational facilities. Overall, the Restoration Program is expected to increase recreation opportunities by assisting in restoring populations of anadromous fish.
- b) The project does not include recreational facilities and does not require the construction or expansion of recreational facilities.

XVI. TRANSPORTATION/TRAFFIC

- a) The project will not conflict with any applicable plans, ordinances or policies that establish measures of effectiveness for the performance of the circulation systems. Such a conflict will not occur because the project will result in only minor temporary increases in traffic to primarily wild land sites during implementation of habitat improvement measures.
- b) The project will not conflict, either individually or cumulatively, with any applicable congestion program established by the county congestion management agency for designated roads or highways. Such an impact will not occur because the habitat improvement actions will not generate a significant amount of traffic at each individual work site and because the work sites are dispersed throughout the coastal counties.
- c) The project will not result in any change in air traffic patterns.
- d) The project will not alter roads in any way that will substantially increase hazards to transportation. The proposed project will reduce hazards to transportation, because the proposed project will correct and reduce landslide and erosion damage on the selected rural roads.
- e) The project will not result in inadequate emergency access. Such an impact will not occur because during replacement of small road crossings, an alternate route for traffic will be provided around the construction.

- f) The project will not significantly affect parking capacity or demand for parking.
- g) The project will not conflict with adopted policies, plans, or programs supporting alternative transportation.

XVII. UTILITIES AND SERVICE SYSTEMS

- a) The project will not produce wastewater.
- b) The project will not require, or result in the construction of, new water or wastewater treatment facilities or expansion of existing facilities. Such an impact will not occur because the project will not produce wastewater.
- c) The project will not cause significant adverse environmental effects associated with the construction of new storm water drainage facilities or expansion of existing facilities.
- d) The project will have sufficient water supplies available to serve the project from existing entitlements and resources.
- e) The project will not produce wastewater.
- f) The project will not generate solid waste requiring disposal in a landfill.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- a) The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Such a potential does not exist because the project will be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals, and cultural resources during construction; the mitigation measures that will be implemented to avoid short-term impacts to rare plants and animals, and cultural resources are described in Appendix B, Mitigation Measures, Monitoring and Reporting Program. The Project activities will provide a long-term benefit to both anadromous salmonids and other fish and wildlife.
- b) The project does not have adverse impacts that are individually limited, but cumulatively considerable. Cumulative adverse impacts will not occur because potential adverse impacts of the project are only minor and temporary in nature. It is the goal of the project that the beneficial effects of habitat enhancement actions will be cumulative over time and contribute to the recovery of listed anadromous salmonids.
- c) The project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. The habitat enhancement measures implemented as part of this project will contribute to improved water quality, increased soil stability, and the recovery of listed salmonids, all of which will be beneficial to human beings.

EXHIBIT A

Austin Creek Sediment Source Reduction Implementation Project, Phase 1
Statement of Work

Under direction of the Grantor, and under the following conditions and terms, the Grantee will:

1. Reduce sediment contributions to Austin Creek by implementing 96 road upgrades and resulting in a savings of 13,145 cubic yards of sediment.
2. Work will be conducted in the Austin Creek Watershed, which drains into the Russian River before flowing into the Pacific Ocean. The project location is located in Township 8N, Range 11W, Sections 5, 6, 29, 30, 31, 32, 35 & 36 of the USGS 7.5 minute Cazadero & Guerneville Quadrangles as depicted in Exhibit C, Project Location Map, which is attached and made part of this agreement by this reference.
3. The following includes all road drainage, decommissioning and road to trail conversion treatments for this project:

Upgrade, convert or decommission 11.74 miles of road thereby saving 13,145 cubic yards of sediment from delivery to Austin Creek. The Grantee shall upgrade, convert to trail or decommission 96 sites as necessary to disperse road runoff and decrease sedimentation.

Stream-crossing treatments:

Install a culvert at 2 unculverted fill sites (Feature #21, 73)

At 10 sites replace an undersized, poorly installed, or worn out culvert (Feature #18, 27, 34, 40, 47, 50, 51, 54, 109, 268).

At 3 sites install flared inlets to increase culvert capacity and reduce the chance of inlet plugging or damage (Features #40, 50, 51).

Install 2 downspouts at stream crossing culvert outlets (Features #66.1, 73).

Decommission 39 stream crossings (Feature #23, 24, 35, 35, 68, 78, 89-91, 93, 95, 112, 113, 116-118, 119, 262, 263, 270-281, 335, 341-348).

Install 10 trashracks at culvert inlets to prevent plugging (Feature #18, 27, 40, 47, 50, 51, 54, 66.1, 109, 268).

Install 5 critical dips ((Feature #13, 18, 66.1, 73, 109) to prevent stream diversions.

Install 19 armored fills with a total of 315 yd³ rock armor to limit erosion and buttress fill (Feature #10, 16, 17, 22, 36, 39, 41, 45, 48, 49, 52, 55, 56, 86, 105, 266, 333, 337, 338).

Excavate fill material adjacent to stream crossings at 3 sites to create a wet crossing (Feature #63, 77, 334).

At 7 sites, add a total of 60 yd³ of rock armor on inboard and outboard stream crossing fillslopes.

At 81 features, excavate and remove a total of approximately 7,675 yd³ of sediment, primarily at fillslopes, stream crossings and landslides.

Miscellaneous treatment at 1 feature specific location.

Road Treatments:

Install 1 ditch relief culverts

Install 1 downspouts to ditch relief culverts

Install 215 cross road drains

Install 253 rolling dips

At 68 locations, outslope road and remove ditch for a total of 34,041 ft of road to improve road surface drainage.

At 2 locations outslope road and retain ditch for a total of 555 ft of road.

At 1 location, clean or cut ditch for a total of 100 ft.

At 21 locations, use a total of 445 yd³ of road rock to rock the road surface at 2 stream culvert installations, 4 armored fill installations, 1 section of road approach (500 ft²), 1 ditch relief culvert installation, 10 rolling dips, 1,145 ft of outslope and remove ditch, and 300 ft of outslope and retain ditch.

Approximately 7,675 cubic yards of fill slope and stream crossing fill from stream crossings and landing/slide/fillslope sites will be excavated and stored in stable locations. The following treatments will be implemented where appropriate:

- Complete excavation of stream crossing fills, including 100 year flood channel bottom widths and 2:1 or otherwise stable side slopes
- Excavation of unstable or potential unstable sidecast materials that could otherwise fail and deliver sediment to a stream
- Road surface treatments (ripping, outslowing and/or cross draining) to disperse and reduce surface runoff
- Seeding and mulching of all exposed soils which may deliver sediment to a stream. Woody debris will be concentrated on finished slopes adjacent to stream crossings. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

4. The following treatments will be implemented where appropriate:

- Upgrading stream crossings installing culverts sized for the 100-year flood flow, including sufficient capacity for expected wood and sediment; eliminate diversion potential by installing a critical dip; replacing culverted fills with hardened fords or armored fills, etc
- Excavation of unstable fill slopes
- Dispersion of road runoff and disconnecting road surface runoff from streams, including but not limited to, berm removal, road surface shaping and installation of ditch relief culverts
- Seed and mulch all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years

5. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.
6. The Grantee shall notify the DFG Grant Manager a minimum of five working days before the project site is de-watered and the stream flow diverted. The notification will provide a reasonable time for DFG personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
 - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
 - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
 - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service (NMFS), Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
 - The Grantee will provide fish relocation data to the DFG Grant Manager on a form provided by the DFG, unless the relocation work is performed by DFG personnel.
 - Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the California Salmonid Stream Habitat Restoration Manual.
7. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the California Salmonid Stream Habitat Restoration Manual, Flosi et al. and the California Salmonid Stream Restoration Manual, Third Edition, Volume II, Part XI, January 2004.
8. Annually and upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, *Microsoft Word* compatible, copy on a CD. If the project is not completed in the current year, the Grantee will submit a summary of the completed portion no later than **November 1** and again each year until completed. The report shall include, but not necessarily be limited to the following information:
 - Grant number
 - Project name
 - Geographic area (e.g., watershed name)
 - Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map

APPENDIX A: Sonoma County Project HU-90

- Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
- Project start and end dates and the number of person hours expended
- Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service)
- Expected benefits to anadromous salmonids from the project
- Labeled before and after photographs of any restoration activities and techniques
- Specific project access using public and private roads and trails, with landowner name and address
- Complete as built road log including sediment savings per site
- Report measurable metrics for the project by responding to the restoration project metrics listed below.

Habitat Protection and Restoration Projects– Reporting Metrics (HI, HR, HS) (Report N/A to those that do not apply)

Habitat Projects: (all)

- Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
- Name the priority habitat limiting factors identified in that plan that are addressed by the project
- Type of monitoring included in the project
 - Design spec achieved
 - Fish movement/abundance
- Number of stream miles treated/affected by the project within the project boundaries.

Upland Habitat Projects (HU)

- Number of features treated per road segment (road decommission / upgrade)
- Number of miles of road decommissioned or upgraded (e.g., treated).
- Number of cubic yards of sediment saved from entering the stream per site.
- Length of aquatic habitat disturbed (feet) per road segment
- Area (footprint) of new instream features installed within bankfull channel (square feet) per road segment
- Amount of upland area treated (acres) per road segment

Water Quality Projects

- Water quality limitations addressed by the project (e.g. 303(d), TMDL)

9. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the *Green Valley Creek Roads Implementation Project*

California Department of Fish and Game APPENDIX A: Sonoma County Project HU-90
Natural Diversity Database
723651 HU-90 Austin Creek Sediment Source Reduction Implementation Project, Phase 1

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 American badger <i>Taxidea taxus</i>	AMAJF04010			G5	S4	SC
2 Baker's larkspur <i>Delphinium bakeri</i>	PDRAN0B050	Endangered	Endangered	G1	S1.1	1B.1
3 Baker's manzanita <i>Arctostaphylos bakeri ssp. bakeri</i>	PDERI04221		Rare	G2T2	S2	1B.1
4 Blasdale's bent grass <i>Agrostis blasdalei</i>	PMPOA04060			G2	S2.2	1B.2
5 California freshwater shrimp <i>Syncaris pacifica</i>	ICMAL27010	Endangered	Endangered	G1	S1	
6 California red-legged frog <i>Rana draytonii</i>	AAABH01022	Threatened		G4T2T3	S2S3	SC
7 Coastal Brackish Marsh	CTT52200CA			G2	S2.1	
8 Coastal Terrace Prairie	CTT41100CA			G2	S2.1	
9 Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
10 Crystal Springs lessingia <i>Lessingia arachnoidea</i>	PDAST5S0C0			G1	S1.2	1B.2
11 Giuliani's dubiraphian riffle beetle <i>Dubiraphia giulianii</i>	IICOL5A020			G1G3	S1S3	
12 Greene's narrow-leaved daisy <i>Erigeron greenei</i>	PDAST3M5G0			G2	S2	1B.2
13 Gualala roach <i>Lavinia symmetricus parvipinnis</i>	AFCJB19025			G5T1T2	S1S2	SC
14 Hoffman's bristly jewel-flower <i>Streptanthus glandulosus var. hoffmanii</i>	PDBRA2G0J4			G4TH	SH	1B.3
15 Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	PDPLM09140			G2	S2.2	1B.2
16 Marin checkerbloom <i>Sidalcea hickmanii ssp. viridis</i>	PDMAL110A4			G3T2	S2.2?	1B.3
17 Morrison's jewel-flower <i>Streptanthus morrisonii</i>	PDBRA2G0S0			G2	S2	
18 Myrtle's silverspot <i>Speyeria zerene myrtleae</i>	IILEPJ6089	Endangered		G5T1	S1	
19 Napa false indigo <i>Amorpha californica var. napensis</i>	PDFAB08012			G4T2	S2.2	1B.2
20 Norris' beard moss <i>Didymodon norrisii</i>	NBMUS2C0H0			G3G4	S3S4	2.2
21 North Coast semaphore grass <i>Pleuropogon hooverianus</i>	PMPOA4Y070		Threatened	G1	S1.1	1B.1
22 Pennell's bird's-beak <i>Cordylanthus tenuis ssp. capillaris</i>	PDSCR0J0S2	Endangered	Rare	G4G5T1	S1.2	1B.2
23 Point Reyes checkerbloom <i>Sidalcea calycosa ssp. rhizomata</i>	PDMAL11012			G5T2	S2.2	1B.2
24 Rincon Ridge ceanothus <i>Ceanothus confusus</i>	PDRHA04220			G2	S2.2	1B.1

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 Natural Diversity Database
 723651 HU-90 Austin Creek Sediment Source Reduction Implementation Project, Phase 1

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25 Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	PDERI041G4			G3T1	S1.1	1B.1
26 Russian River tule perch <i>Hysterocarpus traski</i> <i>pomo</i>	AFCQK02011			G5T2	S2	SC
27 Santa Cruz clover <i>Trifolium buckwestiorum</i>	PDFAB402W0			G1	S1.1	1B.1
28 Sebastopol meadowfoam <i>Limnanthes vincularis</i>	PDLIM02090	Endangered	Endangered	G2	S2.1	1B.1
29 Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	PMPOA07012	Endangered		G5T1Q	S1.1	1B.1
30 Sonoma spineflower <i>Chorizanthe valida</i>	PDPGN040V0	Endangered	Endangered	G1	S1.1	1B.1
31 Sonoma tree vole <i>Arborimus pomo</i>	AMAFF23030			G3	S3	SC
32 The Cedars buckwheat <i>Eriogonum cedrorum</i>	PDPGN087A0			G1	S1	1B.3
33 The Cedars fairy-lantern <i>Calochortus raichei</i>	PMLIL0D1L0			G1	S1.2	1B.2
34 The Cedars manzanita <i>Arctostaphylos bakeri</i> ssp. <i>sublaevis</i>	PDERI04222		Rare	G2T2	S2	1B.2
35 Tidestrom's lupine <i>Lupinus tidestromii</i>	PDFAB2B3Y0	Endangered	Endangered	G2	S2.1	1B.1
36 Vine Hill manzanita <i>Arctostaphylos densiflora</i>	PDERI040C0		Endangered	G1	S1	1B.1
37 Yuma myotis <i>Myotis yumanensis</i>	AMACC01020			G5	S4?	
38 bank swallow <i>Riparia riparia</i>	ABPAU08010		Threatened	G5	S2S3	
39 blue coast gilia <i>Gilia capitata</i> ssp. <i>chamissonis</i>	PDPLM040B3			G5T2	S2.1	1B.1
40 bristly sedge <i>Carex comosa</i>	PMCYP032Y0			G5	S2?	2.1
41 coastal bluff morning-glory <i>Calystegia purpurata</i> ssp. <i>saxicola</i>	PDCON040D2			G4T2	S2.2	1B.2
42 dark-eyed gilia <i>Gilia millefoliata</i>	PDPLM04130			G2	S2.2	1B.2
43 deceiving sedge <i>Carex saliniformis</i>	PMCYP03BY0			G2	S2.2	1B.2
44 double-crested cormorant <i>Phalacrocorax auritus</i>	ABNFD01020			G5	S3	
45 dwarf soaproot <i>Chlorogalum pomeridianum</i> var. <i>minus</i>	PMLIL0G042			G5T3	S3	1B.2
46 foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050			G3	S2S3	SC
47 fragrant fritillary <i>Fritillaria liliacea</i>	PMLIL0V0C0			G2	S2.2	1B.2

California Department of Fish and Game APPENDIX A: Sonoma County Project HU-90
 Natural Diversity Database
 723651 HU-90 Austin Creek Sediment Source Reduction Implementation Project, Phase 1

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
48 golden larkspur <i>Delphinium luteum</i>	PDRAN0B0Z0	Endangered	Rare	G1	S1.1	1B.1
49 great blue heron <i>Ardea herodias</i>	ABNGA04010			G5	S4	
50 hoary bat <i>Lasiurus cinereus</i>	AMACC05030			G5	S4?	
51 holly-leaved ceanothus <i>Ceanothus purpureus</i>	PDRHA04160			G2	S2.2	1B.2
52 long-beard lichen <i>Usnea longissima</i>	NLLEC5P420			G4	S4.2	
53 marbled murrelet <i>Brachyramphus marmoratus</i>	ABNNN06010	Threatened	Endangered	G3G4	S1	
54 monarch butterfly <i>Danaus plexippus</i>	IILEPP2010			G5	S3	
55 narrow-anthered California brodiaea <i>Brodiaea californica</i> var. <i>leptandra</i>	PMLIL0C022			G4?T2T3	S2S3.2	1B.2
56 northern spotted owl <i>Strix occidentalis caurina</i>	ABNSB12011	Threatened		G3T3	S2S3	SC
57 osprey <i>Pandion haliaetus</i>	ABNKC01010			G5	S3	
58 pallid bat <i>Antrozous pallidus</i>	AMACC10010			G5	S3	SC
59 perennial goldfields <i>Lasthenia californica</i> ssp. <i>macrantha</i>	PDAST5L0C5			G3T2	S2.2	1B.2
60 purple-stemmed checkerbloom <i>Sidalcea malviflora</i> ssp. <i>purpurea</i>	PDMAL110FL			G5T2	S2.2	1B.2
61 rhinoceros auklet <i>Cerorhinca monocerata</i>	ABNNN11010			G5	S3	
62 robust monardella <i>Monardella villosa</i> ssp. <i>globosa</i>	PDLAM180P7			G5T2	S2.2	1B.2
63 saline clover <i>Trifolium hydrophilum</i>	PDFAB400R5			G2?	S2.2?	1B.2
64 seaside tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	PDAST4R065			G5T2T3	S2S3	1B.2
65 serpentine daisy <i>Erigeron serpentinus</i>	PDAST3M5M0			G1	S1.3	1B.3
66 short-leaved evax <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	PDASTE5011			G4T2T3	S2S3	1B.2
67 showy rancheria clover <i>Trifolium amoenum</i>	PDFAB40040	Endangered		G1	S1.1	1B.1
68 steelhead - central California coast DPS <i>Oncorhynchus mykiss irideus</i>	AFCHA0209G	Threatened		G5T2Q	S2	
69 swamp harebell <i>Campanula californica</i>	PDCAM02060			G3	S3	1B.2
70 thin-lobed horkelia <i>Horkelia tenuiloba</i>	PDROS0W0E0			G2	S2.2	1B.2

California Department of Fish and Game APPENDIX A: Sonoma County Project HU-90
 Natural Diversity Database
 723651 HU-90 Austin Creek Sediment Source Reduction Implementation Project, Phase 1

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
71 tufted puffin <i>Fratercula cirrhata</i>	ABNNN12010			G5	S2	SC
72 western pond turtle <i>Emys marmorata</i>	ARAAD02030			G3G4	S3	SC
73 western red bat <i>Lasiurus blossevillii</i>	AMACC05060			G5	S3?	SC
74 white-flowered rein orchid <i>Piperia candida</i>	PMORC1X050			G3	S3.2	1B.2
75 white-tailed kite <i>Elanus leucurus</i>	ABNKC06010			G5	S3	
76 woolly-headed gilia <i>Gilia capitata</i> ssp. <i>tomentosa</i>	PDPLM040B9			G5T1	S1.1	1B.1

123°2'30"W

123°2'0"W

123°1'30"W

123°1'0"W

123°0'30"W

123°0'0"W

APPENDIX A: Sonoma County Project HU-90

Exhibit B

Austin Creek Sedimenty Source Reduction Implementation Project, Phase I

Project Location Map

Various TRS: Guerneville and Cazadero Quads
Sonoma County

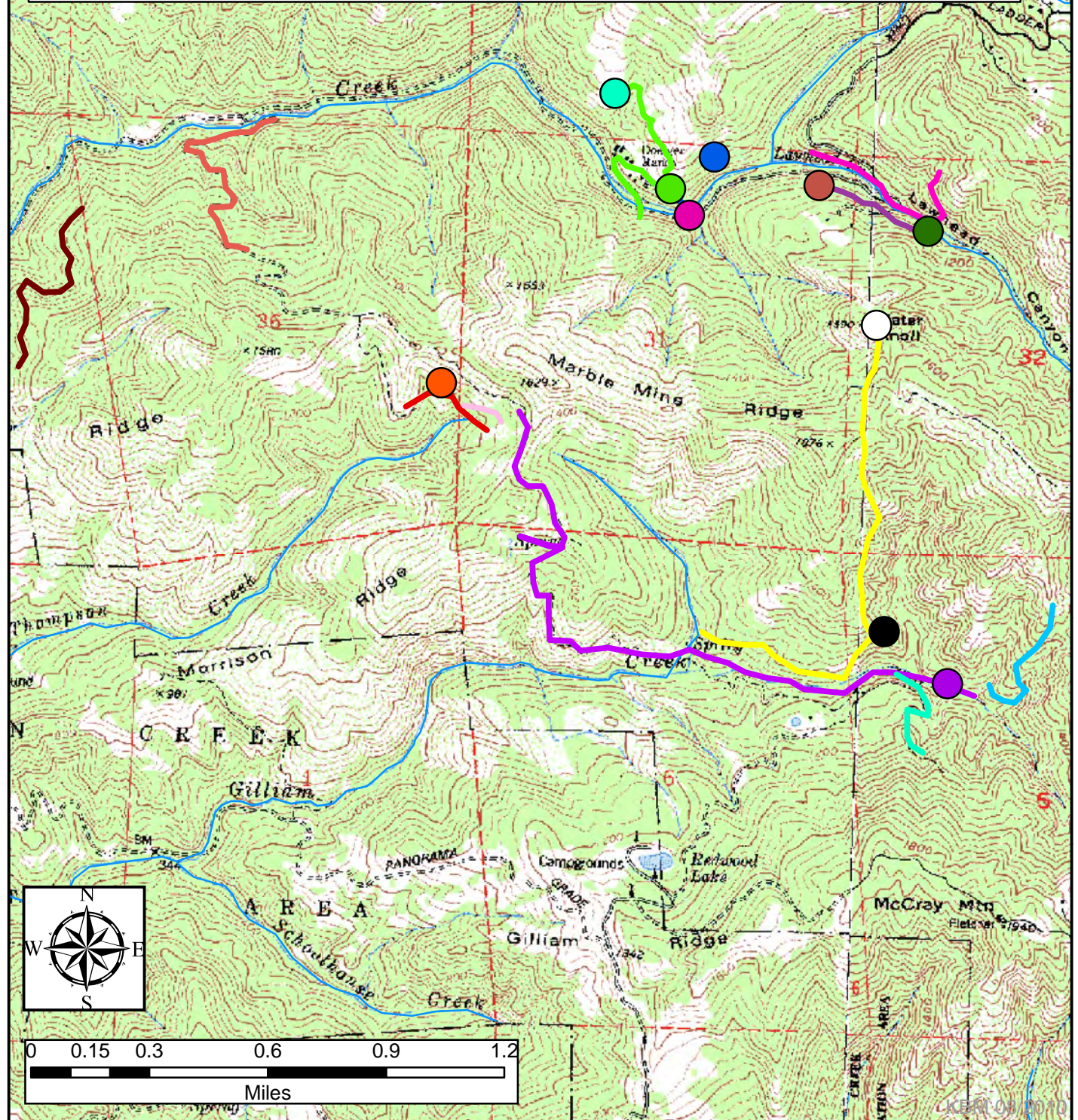



Exhibit B
Austin Creek Sediment Source Reduction Implementation Project, Phase I
Project Location Map Legend

-  Austin Creek Sediment Source Reduction: B. Balala Road 2.2 (upgrades)
-  Austin Creek Sediment Source Reduction: B. Balala Road 2.3 (upgrades)
-  Austin Creek Sediment Source Reduction: B. Balala Road 2.4 (upgrades)
-  Austin Creek Sediment Source Reduction: Doelger Road 2 (with Spur) (decommissioning)
-  Austin Creek Sediment Source Reduction: Doelger Road 4 (decommissioning)
-  Austin Creek Sediment Source Reduction: Doelger Road 7.1 (upgrades)
-  Austin Creek Sediment Source Reduction: Gilliam Road 1.2 (decommissioning)
-  Austin Creek Sediment Source Reduction: Gilliam Road 2.1 (upgrades)
-  Austin Creek Sediment Source Reduction: Tater Knoll Road 1 (decommissioning)
-  Austin Creek Sediment Source Reduction: Tater Knoll Road 2.1 (decommissioning)
-  Austin Creek Sediment Source Reduction: B. Balala Road 2 (upgrades)
-  Austin Creek Sediment Source Reduction: B. Balala Road 2.1 (upgrades)
-  Austin Creek Sediment Source Reduction: Doelger Road (decommissioning)
-  Austin Creek Sediment Source Reduction: Doelger Road 7 (upgrades)
-  Austin Creek Sediment Source Reduction: Gilliam Road (upgrades)
-  Austin Creek Sediment Source Reduction: Gilliam Road 1 (decommissioning)
-  Austin Creek Sediment Source Reduction: Gilliam Road 1.1 (decommissioning)
-  Austin Creek Sediment Source Reduction: Gilliam Road 2 (+skid)
-  Austin Creek Sediment Source Reduction: Gilliam Road 2.1.2 (decommissioning)
-  Austin Creek Sediment Source Reduction: N. Balala Road (with Spur) (decommissioning)
-  Austin Creek Sediment Source Reduction: N. Balala Road 1 (with Spur) (upgrades and decommissioning)
-  Austin Creek Sediment Source Reduction: Tater Knoll Road (upgrades)

APPENDIX B

MITIGATION MEASURES, MONITORING AND REPORTING PROGRAM FOR THE 2011 FISHERIES RESTORATION GRANT PROGRAM

SECTION 1: MITIGATION

I. AESTHETICS

No specific mitigation measures are required to protect aesthetics.

II. AGRICULTURE RESOURCES

No specific mitigation measures are required to protect agricultural resources.

III. AIR QUALITY

No specific mitigation measures are required to protect air quality.

IV. BIOLOGICAL RESOURCES

A. General Measures for Protection of Biological Resources

- 1) Timing. To avoid impacts to aquatic habitat the activities carried out in the restoration program typically occur during the summer dry season where flows are low or streams are dry.
 - a) Work around streams is restricted to the period of June 15 through November 1 or the first significant rainfall, whichever comes first. This is to take advantage of low stream flow and avoid the spawning and egg/alevin incubation period of salmon and steelhead.
 - b) Upslope work generally occurs during the same period as stream work. Road decommissioning and other sediment reduction activities are dependent on soil moisture content. Upslope projects do not have seasonal restrictions in the Incidental Take Statement but work may be further restricted at some sites to allow soils to dry out adequately. In some areas equipment access and effectiveness is constrained by wet conditions.
 - c) The approved work window for individual work sites will be further constrained as necessary to avoid the nesting or breeding seasons of birds and terrestrial animals. At most sites with potential for raptor (including northern spotted owls) and migratory bird nesting, if work is conditioned to start after July 9, potential impacts will be avoided and no surveys will be required. For work sites that might contain nesting marbled murrelets, the starting date will be September 16 in the absence of surveys. The work window at individual work sites could be advanced if surveys determine that nesting birds will not be impacted.
 - d) For restoration work that may affect swallow nesting habitat (such as removal or modification of bridges, culverts or other structures that show evidence of past swallow nesting activities), construction shall occur after August 31 to avoid the swallow nesting period. Suitable nesting habitat shall be netted prior to the breeding season to prevent nesting. Netting shall be installed before any nesting activity

begins, generally prior to March 1. Swallows shall be excluded from areas where construction activities cause nest damage or abandonment.

- e) All project activities shall be confined to daylight hours.
- 2) Projects shall not disturb or dewater more than 500 feet of contiguous stream reach.
- 3) During all activities at project work sites, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.
- 4) Staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area where it cannot enter the stream channel. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans. Vehicles will be moved out of the normal high water area of the stream prior to refueling and lubricating. The grantee shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, DFG shall ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- 5) The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action while minimizing riparian disturbance without affecting less stable areas, which may increase the risk of channel instability. Existing roads shall be used to access work sites as much as practicable.
- 6) The access and work area limits shall be identified with brightly colored flagging or fencing. Flagging and fencing shall be maintained in good repair for the duration of project activities. All areas beyond the identified work area limits shall not be disturbed.
- 7) Any construction debris shall be prevented from falling into the stream channel. Any material that does fall into a stream during construction shall be immediately removed in a manner that has minimal impact to the streambed and water quality.
- 8) Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
- 9) Any work within the stream channel shall be performed in isolation from the flowing stream and erosion protection measures shall be in place before work begins.
 - a) Prior to dewatering, the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic invertebrates shall be determined.
 - b) If there is any flow when work will be done, the grantee shall construct coffer dams upstream and downstream of the excavation site and divert all flow from upstream of the upstream dam to downstream of the downstream dam.
 - c) No heavy equipment shall operate in the live stream, except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.
 - d) Cofferdams may be constructed with clean river run gravel or sand bags, and may be sealed with sheet plastic. Upon project completion, sand bags and any sheet plastic

shall be removed from the stream. Clean river run gravel may be left in the stream channel, provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.

- e) Dewatering shall be coordinated with a qualified fisheries biologist to perform fish and amphibian relocation activities.
 - f) The length of the dewatered stream channel and the duration of the dewatering shall be kept to a minimum and shall be expected to be less than 300 contiguous feet or 500 total feet per site.
 - g) When bypassing stream flow around work area, stream flow below the construction site shall be maintained similar to the unimpeded flow at all times.
 - h) The work area shall be periodically pumped dry of seepage. Pumps shall be placed in flat areas, away from the stream channel. Pumps shall be secured by tying off to a tree or staked in place to prevent movement by vibration. Pump intakes shall be covered with 0.125 inch mesh to prevent entrainment of fish or amphibians that failed to be removed. Pump intakes shall be periodically checked for impingement of fish or amphibians, and shall be relocated according to the approved measures outlined for each species below.
 - i) If necessary, flow shall be diverted around the work site, either by pump or by gravity flow, the suction end of the intake pipe shall be fitted with fish screens meeting DFG and NOAA criteria to prevent entrainment or impingement of small fish. Any turbid water pumped from the work site itself to maintain it in a dewatered state shall be disposed of in an upland location where it will not drain directly into any stream channel.
 - j) Fish shall be excluded from the work area by blocking the stream channel above and below the work area with fine-meshed net or screen. Mesh shall be no greater than 1/8-inch diameter. The bottom edge of the net or screen shall be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening shall be placed in areas of low water velocity to minimize fish impingement. Screens shall be regularly checked and cleaned of debris to permit free flow of water.
- 10) Where the disturbance to construct coffer dams to isolate the work site would be greater than to complete the action (for example, placement of a single boulder cluster), the action shall be carried out without dewatering and fish relocation. Furthermore, measures shall be put in place immediately downstream of the work site to capture suspended sediment. This may include installation of silt catchment fences across the stream, or placement of a filter berm of clean river gravel. Silt fences and other non-native materials will be removed from the stream following completion of the activity. Gravel berms may be left in the stream channel provided it does not impede stream flow or fish passage, and conforms to natural channel morphology without significant disturbance to natural substrate.
- 11) Best management practices associated with fish screens and measures to minimize effects to salmonids associated with fish screen construction, maintenance, and repair are presented below:
- a) Screening projects shall only take place on diversions with a capacity of 60 cfs or less. Screening larger diversions shall require separate consultation. Fish screens shall be operated and maintained in compliance with current law, including Fish and Game Code, and DFG fish screening criteria. DFG screening criteria may be referenced on the Internet at:
http://www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp.

- b) Notwithstanding Fish and Game Code section 6027, fish screens and bypass pipes or channels shall be in-place and maintained in working order at all times water is being diverted.
- c) If a screen site is dewatered for repairs or maintenance when targeted fish species are likely to be present, measures shall be taken to minimize harm and mortality to targeted species resulting from fish relocation and dewatering activities. The responsible party shall notify DFG before the project site is de-watered and streamflow diverted. The notification shall provide a reasonable time for personnel to supervise the implementation of a water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires site dewatering and fish relocation, the responsible party shall implement the dewatering and relocation measures as described in this document to minimize harm and mortality to listed species.
- d) If a fish screen is removed for cleaning or repair, measures shall be undertaken to ensure juvenile fish are not passively entrained into the diversion canal. The area shall be isolated, cleared of fish, and dewatered prior to screen maintenance or replacement. If dewatering the work area is infeasible, then the area in front of the screen shall be cleared of fish utilizing a seine net that remains in place until the project is complete. In the case of a damaged screen, a replacement screen shall be installed immediately or the diversion shut down until a screen is in place.
- e) Fish screens shall be inspected and maintained regularly (not less than two times per week) to ensure that they are functioning as designed and meeting DFG fish screening criteria. During the diversion season, screens shall be visually inspected while in operation to ensure they are performing properly. Outside the diversion season when the screening structure is dewatered, the screen and associated diversion structure shall be more thoroughly evaluated.
- f) Existing roads shall be used to access screen sites with vehicles and/or equipment whenever possible. If it is necessary to create access to a screen site for repairs or maintenance, access points shall be identified at stable stream bank locations that minimize riparian disturbance.
- g) Sediment and debris removal at a screen site shall take place as often as needed to ensure that screening criteria are met. Sediment and debris shall be removed and disposed at a location where it will not re-enter the water course.
- h) Stationary equipment used in performing screen maintenance and repairs, such as motors, pumps, generators, and welders, located within or adjacent to a stream shall be positioned over drip pans.
- i) Equipment which is used to maintain and/or repair fish screens shall be in good condition and checked and maintained on a daily basis to prevent leaks of materials that could be deleterious to aquatic life, wildlife, or riparian habitat.
- j) To the extent possible repairs to a fish screen or screen site shall be made during a period of time when the target species of fish are not likely to be present (for example, in a seasonal creek, repair work should be performed when the stream is dry).
- k) Equipment used to maintain and/or repair fish screens shall not operate in a flowing stream except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.

- l) Turbid water which is generated by screen maintenance or repair activities shall be discharged to an area where it will not re-enter the stream. If the DFG determines that turbidity/siltation levels resulting from screen maintenance or repair activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective DFG-approved sediment control devices are installed and/or abatement procedures are implemented.
- 12) Any equipment entering the active stream (for example, in the process of installing a coffer dam) shall be preceded by an individual on foot to displace wildlife and prevent them from being crushed.
- 13) If any non-special status wildlife are encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed, and shall be flushed, hazed, or herded in a safe direction away from the project site. "Special status wildlife" is defined as any species that meets the definition of "endangered, rare, or threatened species" in section 15380, article 20 in Title 14 of the California Code of Regulations, also known as the "CEQA Guidelines".
- 14) Any red tree vole nests encountered at a work site shall be flagged and avoided during construction.
- 15) For any work sites containing western pond turtles, salamander, foothill yellow-legged frogs or tailed frogs, the grantee shall provide to the DFG grant manager for review and approval, a list of the exclusion measures that will be used at their work site to prevent take or injury to any individual pond turtles, salamanders, or frogs that could occur on the site. The grantee shall ensure that the approved exclusion measures are in place prior to construction. Any turtles or frogs found within the exclusion zone shall be moved to a safe location upstream or downstream of the work site, prior to construction.
- 16) All habitat improvements shall be done in accordance with techniques in the *California Salmonid Stream Habitat Restoration Manual*. The most current version of the manual is available at: <http://www.dfg.ca.gov/fish/Resources/HabitatManual.asp>
- 17) The grantee shall have dependable radio or phone communication on-site to be able to report any accidents or fire that might occur.
- 18) Installation of bridges, culverts, or other structures shall be done so that water flow is not impaired and upstream and downstream passage of fish is assured at all times. Bottoms of temporary culverts shall be placed at or below stream channel grade.
- 19) Temporary fill shall be removed in its entirety prior to close of work-window.

B. Specific Measures for Endangered, Rare, or Threatened Species That Could Occur at Specific Work Sites

1) Rare Plants

The work sites for the 2011 grants projects are within the range of a variety of rare plant species. The plant species found on a State or Federal special status list that might be associated with the 2011 grants projects, was determined from a search of DFG's Natural Diversity Database. Because of the large number of widely scattered work sites proposed, it is not feasible to survey individual work sites in advance and still be able to implement the restoration projects, due to time limits on the availability of restoration funds. Lists of special status plant species that might occur at individual work sites are presented in Appendix A. Past experience with grants projects from previous years has

shown that the potential for adverse impacts on rare plants at salmonid restoration work sites is very low. Few sites surveyed for rare plants between 1999 and 2010 were found to have rare plant colonies; disturbance of rare plants was avoided in all cases. In order to avoid impacts to rare plants during the 2011 grants projects, the following mitigation measures will be implemented:

- a) DFG shall survey all work sites for rare plants prior to any ground disturbing activities. Rare plant surveys will be conducted following the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (DFG, 2009). These guidelines are available in Appendix C or on the web at: <http://www.dfg.ca.gov/habcon/plant/>.
- b) If any special status plant species are identified at a work site, DFG shall require one or more of the following protective measures to be implemented before work can proceed:
 - 1) Fencing to prevent accidental disturbance of rare plants during construction,
 - 2) On-site monitoring by a qualified biologist during construction to assure that rare plants are not disturbed, and
 - 3) Redesign of proposed work to avoid disturbance of rare plants.
- c) If it becomes impossible to implement the project at a work site without potentially significant impacts to rare plants, then activity at that work site shall be discontinued.
- d) DFG shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.

2) California freshwater shrimp (*Syncaris pacifica*)

Of the 54 work sites proposed as part of the 2011 grants program, nine occur within the range of California freshwater shrimp (CFS) (723671 Riparian and Floodplain Habitat Restoration for Coho Recovery along Lagunitas and San Geronimo Creeks, 723567 Purrington Creek Fish Passage Project, 723568 Dutch Bill Creek Sediment Source Reduction Project, 723596 Salmon Creek Roads Implementation Project Phase II, 723617 Green Valley Creek Channel Stabilization and Coho Habitat Enhancement Project, 723638 Green Valley Creek Roads Implementation Project-Phase II, 723651 Austin Creek Sediment Source Reduction Implementation Project, Phase 1, 723652 Salt Creek Stream Habitat Restoration Project, and 723670 Redwood Creek Passage Barrier Removal) (Appendix A). The range of the CFS includes Marin, Napa, and Sonoma counties, excluding the Gualala River watershed. Therefore, the potential for impacts to CFS shall be mitigated by complying with all of the mandatory terms and conditions associated with incidental take authorized by the U. S. Fish and Wildlife Service (Service), Biological Opinions (file no. 1-1-03-F-273 and 81420-2009-I-0748-1). DFG proposes to implement the following measures to minimize adverse effects to the CFS and its habitat:

- a) Project activities in potential shrimp habitat shall be restricted to the period between July 1 and November 1.
- b) At least 15 days prior to the onset of activities, DFG shall submit the name(s) and credentials of biologists who will conduct activities specified in the following measures

to the Service. The grantee shall implement any additional conservation measures requested by DFG and/or the Service.

- c) DFG shall be notified at least one week in advance of the date on which work will start in the stream, so that a qualified DFG biologist can monitor activities at the work site. All work in the stream shall be stopped immediately if it is determined by DFG that the work has the potential to adversely impact shrimp or its habitat. Work shall not recommence until DFG is satisfied that there will be no impact on the shrimp.
- d) Where appropriate, a Service-approved DFG biologist will survey each site for shrimp before allowing work to proceed and prior to issuance of a Streambed Alteration Agreement. All overhanging vegetation, undercut banks, and tree roots will be surveyed with a butterfly net or fish net.
- e) Prior to the onset of work at a work site that may contain shrimp, the Service-approved DFG biologist shall conduct a training session for all construction personnel. At a minimum the training shall include a description of the shrimp and its habitat, the importance of the shrimp and its habitat, the general measures that are being implemented to conserve the shrimp as they relate to the work site, and the work site boundaries where construction may occur.
- f) Only Service-approved biologists shall participate in the capture, handling, and monitoring of shrimp. DFG shall report annually on the number of capture, release and injuries/mortality and agrees to modify capture/release strategy with Service staff as needed to prevent adverse effects.
- g) In site locations where shrimp are present, DFG will require the grantee to implement the mitigation measures listed:
 - 1) Equipment work shall be performed only in riffle, shallow run, or dry habitats, avoiding low velocity pool and run habitats occupied by shrimp, unless shrimp are relocated according to the protocol described below. "Shallow" run habitat is defined as a run with a maximum water depth, at any point, less than 12 inches, and without undercut banks or vegetation overhanging into the water.
 - 2) Hand placement of logs or rocks shall be permitted in pool or run habitat in stream reaches where shrimp are known to be present, only if the placement will not adversely affect shrimp or their habitat.
 - 3) Care shall be taken during placement or movement of materials in the stream to prevent any damage to undercut stream banks and to minimize damage to any streamside vegetation. Streamside vegetation overhanging into pools or runs shall not be removed, trimmed, or otherwise modified.
 - 4) No log or rock weirs (including vortex rock weirs), or check dams shall be constructed that would span the full width of the low flow stream channel. Vegetation shall be incorporated with any structures involving rocks or logs to enhance migration potential for shrimp.
 - 5) No dumping of dead trees, yard waste or brush shall occur in shrimp streams, which may result in oxygen depletion of aquatic systems.
- h) If in the opinion of the Service-approved biologist, adverse affects to shrimp would be further minimized by moving shrimp away from the project site, the following procedure shall be used:

- 1) A second survey shall be conducted within 24 hours of any construction activity and shrimp shall be relocated to the nearest suitable habitat. Shrimp shall be moved while in the net, or placed in buckets containing stream water. Stress and temperature monitoring of shrimp shall be performed by the Service-approved biologist. Numbers of shrimp and any mortalities or injuries shall be identified and recorded. Shrimp habitat is defined as reaches in low elevation (less than 116 m) and low gradient (less than one percent) streams where banks are structurally diverse with undercut banks, exposed fine root systems, overhanging woody debris or overhanging vegetation.
 - 2) When no other habitat exists on a landowner's property, the shrimp shall be held in suitable containers with site water and released at the end of the day. Containers shall be placed in the shade.
- i) If moving the shrimp out of the work area cannot be accomplished, and other avoidance measures have been deemed inappropriate, DFG shall drop activities at the work site from the project.
 - j) A Service-approved DFG biologist shall be present at the work site until such time as all removal of shrimp, instruction of workers, and habitat disturbance associated with the restoration project have been completed. The Service-approved biologist shall have the authority to halt any action that might result in the loss of any shrimp or its habitat. If work is stopped, the Service-approved biologist shall immediately notify DFG and the Service.
 - k) If a work site is temporarily dewatered by pumping, intakes shall be completely screened with wire mesh no larger than 0.2 inch to prevent shrimp from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow with the least disturbance to the substrate.
 - l) A Service-approved biologist shall permanently remove from within the project work site, any individuals of exotic species, such as bullfrogs, centrarchid fishes, and non-native crayfish, to the maximum extent possible. The grantee shall have the responsibility that such removals are done in compliance with the California Department of Fish and Game.
 - m) Invasive non-native vegetation that provides shrimp habitat and is removed as a result of Program activities shall be replaced with native vegetation that provides comparable habitat for the shrimp. Re-vegetated sites shall be irrigated as necessary until vegetation is established. Re-vegetated sites shall be monitored until shading and cover achieves 80% of pre-project shading and cover and for a minimum of 5 years.
- 3) **Coho salmon (*Oncorhynchus kisutch*), Chinook salmon (*Oncorhynchus tshawytscha*), Steelhead (*Oncorhynchus mykiss*), and Coast cutthroat trout (*Oncorhynchus clarki clarki*)**

While all of the work proposed under this program will enhance habitat for one or more of these species, all of the work sites proposed as part of the 2011 grants program could involve instream work in their habitat (Appendix A). In order to avoid any potential for negative impacts to these species, the following measures will be implemented:

- a) Project work within the wetted stream shall be limited to the period between June 15 and November 1, or the first significant rainfall, or which ever comes first. This is to take advantage of low stream flows and to avoid the spawning and egg/alevin incubation period of salmon and steelhead. Whenever possible, the work period at individual sites shall be further limited to entirely avoid periods when salmonids are present (for example, in a seasonal creek, work will be confined to the period when the stream is dry).
- b) Suitable large woody debris removed from fish passage barriers that is not used for habitat enhancement, shall be left within the riparian zone so as to provide a source for future recruitment of wood into the stream, reduce surface erosion, contribute to amounts of organic debris in the soil, encourage fungi, provide immediate cover for small terrestrial species and to speed recovery of native vegetation.
- c) Prior to dewatering a construction site, fish and amphibian species shall be captured and relocated by DFG personnel (or designated agents). Measures shall be taken to minimize harm and mortality to listed salmonids resulting from fish relocation and dewatering activities:
 - 1) Fish relocation and dewatering activities shall only occur between June 15 and November 1 of each year.
 - 2) Fish relocation shall be performed by a qualified fisheries biologist, with all necessary State and Federal permits. Rescued fish shall be moved to the nearest appropriate site outside of the work area. A record shall be maintained of all fish rescued and moved. The record shall include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the project site, and the number and species of fish captured and relocated. The record shall be provided to DFG within two weeks of the completion of the work season or project, whichever comes first.
 - 3) Electrofishing shall be conducted by properly trained personnel following NOAA *Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act*, June 2000.
 - 4) Prior to capturing fish, the most appropriate release location(s) shall be determined. The following shall be determined:
 - i) Temperature: Water temperature shall be similar as the capture location.
 - ii) Habitat: There shall be ample habitat for the captured fish.
 - iii) Exclusions from work site: There shall be a low likelihood for the fish to reenter the work site or become impinged on exclusion net or screen
 - 5) The most efficient method for capturing fish shall be determined by the biologist. Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping-down the pool and then seining or dipnetting fish.
 - 6) Handling of salmonids shall be minimized. However, when handling is necessary, always wet hands or nets prior to touching fish.
 - 7) Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.

- 8) Air and water temperatures shall be measured periodically. A thermometer shall be placed in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds 18 °C, fish shall be released and rescue operations ceased.
 - 9) Overcrowding in containers shall be avoided by having at least two containers and segregating young-of-year (YOY) fish from larger age-classes to avoid predation. Larger amphibians, such as Pacific giant salamanders, shall be placed in the container with larger fish. If fish are abundant, the capturing of fish and amphibians shall cease periodically and shall be released at the predetermined locations.
 - 10) Species and year-class of fish shall be visually estimated at time of release. The number of fish captured shall be counted and recorded. Anesthetization or measuring fish shall be avoided.
 - 11) If feasible, initial fish relocation efforts shall be performed several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts.
 - 12) If mortality during relocation exceeds five percent, capturing efforts shall be stopped and the appropriate agencies shall be contacted immediately.
 - 13) In regions of California with high summer temperatures, relocation activities shall be performed in the morning when the temperatures are cooler.
 - 14) DFG shall minimize the amount of wetted stream channel that is dewatered at each individual project site to the fullest extent possible.
 - 15) Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the Restoration Manual.
- d) If these mitigation measures cannot be implemented, or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to anadromous salmonids or their habitat, then activity at that work site shall be discontinued.

4) Tidewater goby (*Eucyclogobius newberryi*)

The tidewater goby was listed by the state of California for protection in 1987, and federally listed in 1994. However, the fish's need for specific kind of habitat means that the populations are isolated from each other, and subject to extirpation due to various human activities, such as draining of wetlands, sand bar breaches, pollutant accumulation in lagoons, and so forth.

Of the 54 work sites proposed as part of the 2011 grants program, one site (723591 San Jose Creek Capacity Improvement and Fish Passage Project) show the tidewater goby listed on the corresponding species lists in Appendix A. Actual work sites are not within the tidal zone and as such will not affect suitable habitat for the tidewater goby.

5) California red-legged frog (*Rana aurora draytonii*)

Of the 54 work sites proposed as part of the 2011 grants program, 18 are listed on the corresponding species lists in Appendix A. Activities proposed for the sites 723603 Gualala Wood In the Stream Program (aka Jammin' for Salmon), 723613 Robinson Creek Planning Watershed Sediment Source Implementation Project, 723668 Inman Creek Phase 2 Sediment Control and LWD Implementation Project, 723671 Riparian and Floodplain Habitat Restoration for Coho Recovery along Lagunitas and San Geronimo Creeks, 723724 Lansdale Fish Passage Improvement, 723621 Instream Flow Measurements on Napa Tributaries, 723647 San Vicente Large Woody Debris Project Phase I, 723567 Purrington Creek Fish Passage Project, 723568 Dutch Bill Creek Sediment Source Reduction Project, 723596 Salmon Creek Roads Implementation Project Phase II, 723617 Green Valley Creek Channel Stabilization and Coho Habitat Enhancement Project, 723638 Green Valley Creek Roads Implementation Project-Phase II, 723651 Austin Creek Sediment Source Reduction Implementation Project, Phase 1, 723652 Salt Creek Stream Habitat Restoration Project, 723670 Redwood Creek Passage Barrier Removal, 723588 Pismo Creek Watershed Arundo Management Program, 723591 San Jose Creek Capacity Improvement and Fish Passage Project, and 723720 Rancho Tajiguas Barrier Removal Project will not remove or degrade California red-legged frog (CRLF) habitat; however, precautions shall be required at these sites to avoid the potential for take of CRLF while using heavy equipment. The potential for impacts to CRLF will be mitigated by complying with all of the mandatory terms and conditions associated with incidental take authorized by the U. S. Fish and Wildlife Service, Biological Opinion (file no. 1-1-03-F-273, 81420-2009-I-0748-1, and 81440-2009-F-0387 for projects within the San Francisco District of the USACE, and file no. 2008-F-0441 for projects within the Los Angeles District of the USACE). The three projects (723603 Gualala Wood in the Stream Program (aka Jammin' for Salmon), 723613 Robinson Creek Planning Watershed Sediment Source Implementation Project, and 723668 Inman Creek Phase 2 Sediment Control and LWD Implementation Project) located in the area considered by the Arcata Fish and Wildlife Service Office and are likely to contain California red-legged frogs shall be consulted on individually. DFG shall implement the following measures to minimize adverse effects to the CRLF and its habitat:

- a) Project activities in potential red-legged frog habitat shall be restricted to the period between July 1 and October 15.
- b) At least 15 days prior to the onset of project activities, DFG shall submit the names(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until DFG has received written approval from the Service that the biologist(s) is qualified to conduct the work.
- c) Prior to the onset of any project-related activities, the approved biologist must identify appropriate areas to receive red-legged frog adults and tadpoles from the project areas. These areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of exotic predatory species (i.e. bullfrogs, crayfish) to the best of the approved biologist's knowledge.
- d) A Service-approved biologist shall survey the project site at least two weeks before the onset of activities. If red-legged frogs are found in the project area and these individuals are likely to be killed or injured by work activities, the Service-approved biologist will allow sufficient time to move them from the site before work activities resume. Only Service-approved biologists will participate in activities with the capture, handling, and monitoring of red-legged frogs.
- e) Prior to the onset of project activities, a Service-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include

a description of the red-legged frog and its habitat, the importance of the red-legged frog and its habitat, the general measures that are being implemented to conserve the red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

- f) A Service-approved biologist shall be present at the work site until such time as removal of red-legged frogs, instruction of workers, and habitat disturbance has been completed. The Service-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USACE and Service during review of the proposed action. If work is stopped, the USACE and the Service shall be notified immediately by the Service-approved biologist or on-site biological monitor.
- g) If red-legged frogs are found and these individuals are likely to be killed or injured by work activities, the Service-approved biologists must be allowed sufficient time to move them from the site before work activities resume. The Service-approved biologist must relocate the red-legged frogs the shortest distance possible to one of the predetermined areas. The Service-approved biologist must maintain detailed records of any individuals that are moved (e.g., size, coloration, any distinguishing features, photographs (digital preferred) to assist in determining whether translocated animals are returning to the point of capture. Only red-legged frogs that are at risk of injury or death by project activities may be moved.
- h) A DFG monitoring plan shall be developed to determine the level of incidental take of the red-legged frog associated with the Restoration Program funded activities in the area. The monitoring plan must include a standardized mechanism to report any observations of dead or injured red-legged frog to the appropriate USACE and Service offices.
- i) If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.125 inch to prevent red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain down stream flows during construction activities and eliminate the possibility of ponded water. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
- j) Ponded areas shall be monitored for red-legged frogs that may become entrapped. Any entrapped red-legged frog shall be relocated to a pre-determined receiving area by a Service-approved biologist.
- k) A Service-approved biologist will permanently remove from the project area, any individuals of exotic species, such as bullfrogs (*Rana catesbiana*), centrarchid fishes, and non-native crayfish to the maximum extent possible. The biologist will have the responsibility to ensure that their activities are in compliance with the Fish and Game Code.
- l) The Service-approved biologist(s) who handle red-legged frogs shall ensure that their activities do not transmit diseases. To ensure that diseases are not conveyed between work sites by the Service-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.
- m) The DFG or USACE shall report any observation of the incidental take of red-legged frogs associated with the implementation of the Restoration Program projects in accordance with RGP78. The Service and the USACE must review the circumstances

surrounding the incident to determine whether any patterns of repeated authorized or unauthorized activities are occurring that may indicate that additional protective measures are required. If, after completion of the review, the USACE and the Service agree that additional protective measures are required and can be implemented within the existing scope of the action, the USACE must require the DFG to implement the agreed-upon measures within a reasonable time frame; if the corrective actions cannot be implemented with the scope of the existing action, the USACE and Service will determine whether re-initiation of consultation is appropriate.

- n) Despite term and condition h of this section (above), the USACE must immediately re-initiate formal consultation with the Service, pursuant to 7(a) (2) of the Endangered Species Act, if red-legged frogs are taken within the action area at or in excess of the incidental take anticipated in the Incidental Take Statement section of the U.S. Fish and Wildlife biological opinion (file no. 2008-F-0441), whether by project or by year.
- o) If these mitigation measures cannot be implemented or the project activities proposed at a specific work site cannot be modified to prevent or avoid potential impacts to CRLF or its habitat, then project activity at that work site shall be discontinued.

6) Arroyo Toad (*Bufo microscaphus californicus*)

None of the proposed projects in the 2011 grants program are located within the range of the Arroyo toad.

7) San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*)

None of the projects proposed in the 2011 grants program are located within the range of the San Francisco garter snake.

8) Least Bell's Vireo (*Vireo bellii pusillus*)

Following the listing of the least Bell's vireo subspecies as Federally Endangered in 1986, there has been much conservation, restoration, monitoring, and research that has taken place in its southern California range leading to increased populations in some areas. Of the 54 projects proposed as part of the 2011 grants program, none are within the range of the least Bell's vireo.

9) Marbled murrelet (*Brachyrampus marmoratus*)

The marbled murrelet is listed as endangered under CESA and threatened under ESA. Activities to protect and restore habitat will not remove or degrade suitable habitat for marbled murrelets, however nesting birds could be disturbed by the noise from heavy equipment required for projects such as culvert removal or placement of large woody debris.

Twenty-three of the 54 work sites proposed as part of the 2011 grants program are listed on the corresponding species lists in Appendix A. Activities proposed for the sites 723590 Stream and Floodplain Enhancement of Hunter Creek, Lower Klamath River, 723646 Hunter Creek Road Decommissioning Project, 723648 Terwar Creek Road Decommissioning Project, 723619 Beith Creek Road Decommissioning and Sediment Control Project, 723626 2011 Little S.F. Elk River Road Decommissioning Project,

723645 Root Creek Road Decommissioning and Sediment Control Project, 723700 Salmon Creek Road Decommissioning and Sediment Control Project, 723221 2009 Freshwater Creek - Cloney Gulch Road Decommissioning Project, 723460 2009 BLM Salmon Creek Road Decommissioning Project - additional sites, 723681 Klamath River Tributary Fish Passage Improvement Project, 2011-2012, 723221 2009 Freshwater Creek - Cloney Gulch Road Decommissioning Project, 723564 Walton Gulch Bridge, 723571 North Fork of South Fork Noyo River Stream Habitat Restoration Project, 723572 Berry Gulch Stream Habitat Restoration Project, 723609 Woodlands Little North Fork Sill Removal Project, 723660 Indian Creek Salmonid Habitat Restoration Project, 723661 Hollow Tree Creek Implementation Project, Phase VI, 723664 South Fork Big River Coho Instream Habitat Enhancement Project, 723687 Caspar Watershed - Ziemer Road Decommissioning, 723701 East Branch Little North Fork Big River Sediment Control and LWD Implementation Project, 723671 Riparian and Floodplain Habitat Restoration for Coho Recovery along Lagunitas and San Geronimo Creeks, 723647 San Vicente Large Woody Debris Project Phase I, and 723651 Austin Creek Sediment Source Reduction Implementation Project, Phase 1 will not remove, degrade, or downgrade suitable marbled murrelet habitat. As a result, direct injury or mortality of murrelets is not an issue. The potential exists for noise from heavy equipment work at these sites to disrupt marbled murrelet nesting. To avoid this potential impact, the following mitigation measures shall be implemented:

- a) Restoration work in areas considered by the Arcata and Ventura USFWS Offices shall not be conducted within 0.25 mile of occupied or un-surveyed suitable marbled murrelet habitat between March 24 and September 15. Restoration work in areas considered by the Sacramento USFWS Office shall not be conducted within 0.25 mile of any occupied or un-surveyed suitable marbled murrelet habitat between November 1 and September 15.
- b) The work window at individual work sites near suitable habitat may be modified, if protocol surveys determine that habitat quality is low and occupancy is very unlikely.
- c) If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential adverse effects to marbled murrelet or their habitat, then activity at that work site shall be discontinued.
- d) For projects contained in streams and watersheds included in a FWS Habitat Conservation Plan the mitigation measures contained within those Habitat Conservation Plans shall be followed.

10) Northern spotted owl (*Strix occidentalis caurina*)

The northern spotted owl is listed as threatened under ESA. Restoration activities should not alter habitat for northern spotted owls, however nesting birds could be disturbed by the noise from heavy equipment during projects such as culvert removal or placement of large woody debris. Disturbance can be avoided by limiting heavy equipment work within 0.25 miles of suitable spotted owl habitat to the period outside the nesting season.

Of the 54 work sites proposed as part of the 2011 grants program, 31 are in potentially suitable habitat for the northern spotted owl (723590 Stream and Floodplain Enhancement of Hunter Creek, Lower Klamath River, 723646 Hunter Creek Road Decommissioning Project, 723648 Terwar Creek Road Decommissioning Project, 723616 Redwood Creek 1431 and 1433 Roads Decommissioning and Erosion Prevention Project, 723619 Beith Creek Road Decommissioning and Sediment Control Project,

723626 2011 Little S.F. Elk River Road Decommissioning Project, 723645 Root Creek Road Decommissioning and Sediment Control Project, 723657 Middle Van Duzen River Phase 4 Upslope Restoration Project, 723700 Salmon Creek Road Decommissioning and Sediment Control Project, 723221 2009 Freshwater Creek - Cloney Gulch Road Decommissioning Project, 723460 2009 BLM Salmon Creek Road Decommissioning Project - additional sites, 723681 Klamath River Tributary Fish Passage Improvement Project, 2011-2012, 723559 Little North Fork Navarro River Wood Enhancement - Phase III, 723560 North Fork Big River Stream Habitat Restoration Project, 723570 McMullen Creek Large Wood Enhancement Project – Phase II, 723603 Gualala Wood In the Stream Program (aka Jammin' for Salmon), 723613 Robinson Creek Planning Watershed Sediment Source Implementation Project, 723628 Dunn Creek Coho Fish Passage Project, 723660 Indian Creek Salmonid Habitat Restoration Project, 723661 Hollow Tree Creek Implementation Project, Phase VI, 723663 Lower South Branch North Fork Navarro Sediment Reduction - Phase I, 723664 South Fork Big River Coho Instream Habitat Enhancement Project, 723666 Cottaneva Creek Watershed Restoration Implementation Project, Phase III, 723667 Standley Creek Upslope Sediment Reduction Project Phase 4 (SCUSRP), 723668 Inman Creek Phase 2 Sediment Control and LWD Implementation Project, 723675 Russell Brook Upslope Sediment Reduction Project (RUSRP), 723684 Big Salmon Creek Large Woody Debris Project, 723701 East Branch Little North Fork Big River Sediment Control and LWD Implementation Project, 723671 Riparian and Floodplain Habitat Restoration for Coho Recovery along Lagunitas and San Geronimo Creeks, 723596 Salmon Creek Roads Implementation Project Phase II, 723617 Green Valley Creek Channel Stabilization and Coho Habitat Enhancement Project, and 723651 Austin Creek Sediment Source Reduction Implementation Project, Phase 1) (Appendix A). None of the activities will remove, degrade or downgrade northern spotted owl habitat. As a result, direct injury or mortality of owls is not likely. The potential exists for heavy equipment work at these sites to disturb spotted owl nesting. To avoid this potential effect, the following mitigation measures will be implemented:

- a) Work with heavy equipment at any site within 0.25 miles of suitable habitat for the northern spotted owl shall not occur from November 1 to July 31 for projects in areas considered by the Sacramento USFWS Office and from November 1 to July 9 for projects in areas considered by the Arcata USFWS Office.
- b) The work window at individual work sites may be advanced prior to July 9 or July 31 (corresponding to the different time constraints of the Sacramento and Arcata USFWS Office), if protocol surveys determine that suitable habitat is unoccupied.
- c) If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to northern spotted owls or their habitat, then activity at that work site shall be discontinued and DFG must reinitiate consultation with FWS.
- d) For projects contained within streams and watersheds included in a FWS Habitat Conservation Plan the mitigation measures contained within those Habitat Conservation Plans shall be followed.

11) Willow flycatcher (*Empidonax traillii*).

Of the 54 work sites proposed as part of the 2011 grants program, three are in potentially suitable habitat for the willow flycatcher (723646 Hunter Creek Road Decommissioning Project, 723648 Terwar Creek Road Decommissioning Project, and 723591 San Jose Creek Capacity Improvement and Fish Passage Project) (Appendix A). None of the activities proposed for these sites will significantly degrade existing willow flycatcher

habitat; however, the potential exists for the noise from heavy equipment work or harvesting of revegetation material at these sites to disrupt willow flycatcher nesting. To avoid this potential impact, the following mitigation measures shall be implemented:

- a) Heavy equipment work shall not begin within one quarter mile of any site with known or potential habitat for the willow flycatcher until after August 31 and for the southwestern willow flycatcher until after September 15.
- b) Prior to any work in areas where riparian habitat is present, a qualified biologist shall do a habitat assessment and determine whether the area within 500 feet of the project site is suitable for nesting by southwestern willow flycatchers. If not, work may proceed without further surveys. If the biologist determines that the area is suitable, a qualified biologist must monitor before and during the project to determine the status of the southwestern willow flycatchers within 500 feet of the project site.
- c) The work window at individual work sites may be modified, if protocol surveys determine that nesting birds do not occur within 0.25 miles of the site during the breeding season.
- d) Harvest of willow branches at any site with potential habitat for the willow flycatcher shall not occur between May 1 and August 31. Harvest of willow branches at any site with potential habitat for the southwestern willow flycatcher shall not occur between May 1 and September 15.
- e) No more than 1/3 of any willow plant shall be harvested annually. Care shall be taken during harvest not to trample or over harvest the willow sources.
- f) If any southwestern willow flycatchers are observed nesting within 500 feet of the project activities, work shall cease temporarily until it is determined that either the birds are not nesting or young have fledged.
- g) DFG shall ensure that the grantee or responsible party is aware of this site-specific condition, and shall inspect the work site before, during, and after completion of the action item.
- h) If these mitigation measures cannot be implemented or the project actions proposed at a specific work site cannot be modified to prevent or avoid potential impacts to willow flycatcher or their habitat, then activity at that work site shall be discontinued.

12) Point Arena mountain beaver (*Aplodontia rufa nigra*)

The Point Arena subspecies is only found within a disjunct, 24-square mile area in western Mendocino County, California. The U.S. Fish and Wildlife Service considers the range of the Point Arena mountain beaver (PAMB) to include areas five miles inland from the Pacific Ocean extending from a point two miles north of Bridgeport Landing south to a point five miles south of the town of Point Arena. PAMB can be found along Nulls Creek, Mallo Pass Creek, Irish Gulch, Alder Creek, Manchester State Park, Lagoon Lake, Lower Hathaway Creek, City of Point Arena, Lower and Middle Brush Creek, and Hathaway Creek.

Of the 54 projects proposed as part of the 2011 grants program, none of the projects list the PAMB in the species list (Appendix A). However, none of the activities proposed for these sites are within the range of the PAMB and will not degrade suitable PAMB habitat.

C. Riparian and re-vegetation

- 1) Planting of seedlings shall begin after December 1, or when sufficient rainfall has occurred to ensure the best chance of survival of the seedlings, but in no case after April 1.
- 2) Any disturbed banks shall be fully restored upon completion of construction. Revegetation shall be done using native species. Planting techniques can include seed casting, hydroseeding, or live planting methods using the techniques in Part XI of the *California Salmonid Stream Habitat Restoration Manual*.
- 3) Disturbed and compacted areas shall be re-vegetated with native plant species. The species shall be comprised of a diverse community structure that mimics the native riparian corridor. Planting ratio shall be 2:1 (two plants to every one removed).
- 4) Unless otherwise specified, the standard for success is 80 percent survival of plantings or 80 percent ground cover for broadcast planting of seed after a period of 3 years.
- 5) To ensure that the spread or introduction of invasive exotic plants shall be avoided to the maximum extent possible, equipment shall be cleaned of all dirt, mud, and plant material prior to entering a work site. When possible, invasive exotic plants at the work site shall be removed. Areas disturbed by project activities will be restored and planted with native plants.
- 6) Mulching and seeding shall be done on all exposed soil which may deliver sediment to a stream. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.
- 7) If erosion control mats are used in re-vegetation, they shall be made of material that decomposes. Erosion control mats made of nylon plastic, or other non-decomposing material shall not be used.
- 8) DFG shall retain as many trees and brush as feasible, emphasizing shade producing and bank stabilizing trees and brush to minimize impacts to the riparian corridor.
- 9) If riparian vegetation is to be removed with chainsaws, the grantee shall use saws that operate with vegetable-based bar oil when possible.
- 10) Disturbed and decompact areas shall be re-vegetated with native species specific to the project location that comprise a diverse community of woody and herbaceous species.

V. CULTURAL RESOURCES

Ground-disturbance will be required to implement the project at some work sites that have the potential to affect cultural resources. This potential impact will be avoided through implementation of the following mitigation measures:

- 1) DFG shall contract with a qualified archaeologist(s) and paleontologist(s) to complete cultural and paleontological resource surveys at any sites with the potential to be impacted prior to any ground disturbing activities. Cultural and paleontological resource surveys shall be conducted using standard protocols to meet the 2010 CEQA Guideline requirements. Paleontological survey protocols are listed in Appendix D. The procedure for a programmatic evaluation of archeological resources is provided in Appendix E.
- 2) If cultural and or paleontological resource sites are identified at a site, DFG shall require one or more of the following protective measures to be implemented before work can proceed: a) fencing to prevent accidental disturbance of cultural resources during construction, b) on-site monitoring by a cultural and or paleontological resource professional during construction to assure that cultural resources are not disturbed, c) redesign of proposed work to avoid disturbance of cultural resources.
- 3) DFG shall report any previously unknown historic, archeological and paleontological remains discovered at a site to the USACE as required in the RGP.
- 4) DFG shall ensure that the grantee or responsible party is aware of these site-specific conditions, and shall inspect the work site before, during, and after completion of the action item.
- 5) Inadvertent Discovery of Cultural Resources - If cultural resources, such as lithic debitage, ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action. [Prehistoric materials which could be encountered include: obsidian and chert flakes or chipped stone tools, grinding implements, (e.g., pestles, handstones, mortars, slabs), bedrock outcrops and boulders with mortar cups, locally darkened midden, deposits of shell, dietary bone, and human burials. Historic materials which could be encountered include: ceramics/pottery, glass, metal, can and bottle dumps, cut bone, barbed wire fences, building pads, structures, trails/roads, railroad rails and ties, trestles, etc.]
- 6) Inadvertent Discovery of Human Remains - If human remains are discovered during project construction, work shall stop at the discovery location, within 20 meters (66 feet), and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The county coroner shall be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American heritage Commission (NAHC) (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work shall not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98. Work may resume if NAHC is unable to identify a descendant or the descendant failed to make a recommendation.
- 7) Procedures for treatment of an inadvertent discovery of human remains:
 - a) Immediately following discovery of known or potential human remains all ground-disturbing activities at the point of discovery shall be halted.

- b) No material remains shall be removed from the discovery site, a reasonable exclusion zone shall be cordoned off.
 - c) The DFG Grant Manager and property owner shall be notified and the DFG Grant Manager shall contact the county coroner.
 - d) DFG shall retain the services of a professional archaeologist to immediately examine the find and assist the process.
 - e) All ground-disturbing construction activities in the discovery site exclusion area shall be suspended.
 - f) The discovery site shall be secured to protect the remains from desecration or disturbance, with 24-hour surveillance, if prudent.
 - g) Discovery of Native American remains is a very sensitive issue, and all project personnel shall hold any information about such a discovery in confidence and divulge it only on a need-to-know basis.
 - h) The coroner has two working days to examine the remains after being notified. If the remains are Native American, the coroner has 24 hours to notify the NAHC in Sacramento (telephone 916/653-4082).
 - i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American.
 - j) Within 24 hours of their notification by the NAHC, the MLD shall be granted permission by the landowner's authorized representative to inspect the discovery site, if they so choose.
 - k) Within 24 hours of their notification by the NAHC, the MLD shall recommend to the landowner and DFG Grant Manager means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials.
 - l) Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his/her authorized representative rejects the recommendation of the MLD and mediation between the parties by the NAHC fails to provide measures acceptable to the landowner, the landowner or his/her authorized representatives shall re-inter the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance.
 - m) Following final treatment measures, the DFG shall ensure that a report is prepared that describes the circumstances, nature and location of the discovery, its treatment, including results of analysis (if permitted), and final disposition, including a confidential map showing the reburial location. Appended to the report shall be a formal record about the discovery site prepared to current California standards on DPR 523 form(s). DFG shall ensure that report copies are distributed to the appropriate California Historic Information Center, NAHC and MLD.
- 8) Pursuant to RGP78 and in accordance to 36 C.F.R. Section 800.13, in the event of any discovery during construction of human remains, archeological deposits, or any other type of historic property, the DFG shall notify the USACE archeological staff (Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861) within 24 hours. Construction work shall

be suspended immediately and shall not resume until USACE re-authorizes project construction.

- 9) If it becomes impossible to implement the project at a work site without disturbing cultural or paleontological resources, then activity at that work site shall be discontinued.

VI. GEOLOGY AND SOILS

There is no potential for a significant adverse impact to geology and soils; implementation of the restoration project will contribute to an overall reduction in erosion and sedimentation. Existing roads will be used to access work sites. Ground disturbance at most work sites will be minimal, except for road improvements or decommissioning. Road improvements and decommissioning will involve moving large quantities of soil from road fills and stream crossings to restore historic land surface profiles and prevent chronic erosion and sediment delivery to streams. In order to avoid temporary increases in surface erosion, the following mitigation measures will be implemented:

- 1) DFG will implement the following measures to minimize harm to listed salmonids resulting from culvert replacement activities and other instream construction work:
 - a) All stream crossing replacement or modification designs, involving fish passage, shall be reviewed and approved by NOAA (or DFG) engineers prior to onset of work.
 - b) If the stream in the project location was not passable to, or was not utilized by all life stages of, all covered salmonids prior to the existence of the road crossing, the project shall pass the life stages and covered salmonid species that historically did pass there. Retrofit culverts shall meet the fish passage criteria for the passage needs of the listed species and life stages historically passing through the site prior to the existence of the road crossing.
- 2) DFG shall implement the following measures to minimize harm to listed salmonids resulting from road decommissioning activities:
 - a) Woody debris will be concentrated on finished slopes of decommissioned roads adjacent to stream crossings to reduce surface erosion; contribute to amounts of organic debris in the soil; encourage fungi; provide immediate cover for small terrestrial species; and to speed recovery of native forest vegetation.
 - b) Work sites shall be winterized at the end of each day to minimize the eroding of unfinished excavations when significant rains are forecasted. Winterization procedures shall be supervised by a professional trained in erosion control techniques and involve taking necessary measures to minimize erosion on unfinished work surfaces. Winterization includes the following: smoothing unfinished surfaces to allow water to freely drain across them without concentration or ponding; compacting unfinished surfaces where concentrated runoff may flow with an excavator bucket or similar tool, to minimize surface erosion and the formation of rills; and installation of culverts, silt fences, and other erosion control devices where necessary to convey concentrated water across unfinished surfaces, and trap exposed sediment before it leave the work site.
- 3) Effective erosion control measures shall be in-place at all times during construction. Construction within the 5-year flood plain shall not begin until all temporary erosion controls (i.e., straw bales or silt fences that are effectively keyed-in) are in place down slope or down stream of project activities within the riparian area. Erosion control

measures shall be maintained throughout the construction period. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided.

- 4) An adequate supply of erosion control materials (gravel, straw bales, shovels, etc.) shall be maintained onsite to facilitate a quick response to unanticipated storm events or emergencies.
- 5) Use erosion controls that protect and stabilize stockpiles and exposed soils to prevent movement of materials. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.
- 6) When needed, instream grade control structures shall be utilized to control channel scour, sediment routing, and headwall cutting.
- 7) Temporary stockpiling of excavated material shall be minimized. However, excavated material shall be stockpiled in areas where it cannot enter the stream channel. Available sites at or near the project location shall be determined prior to the start of construction. If feasible, topsoil shall be conserved for reuse at project location or use in other areas.
- 8) For projects located within the USACE San Francisco District, an annual limit on the number of sediment-producing projects per HUC 10 watershed shall be implemented to ensure that potential sediment impacts will remain spatially isolated, thus minimizing cumulative turbidity effects. Sediment producing projects include instream habitat improvement, instream barrier removal, stream bank stabilization, fish passage improvement, upslope road work, and fish screen construction (unless the screen is located in a diversion ditch and is disconnected from the waterway). The limit of projects shall be as follows:

Square mile of HUC 10 watershed	Maximum number of instream and upslope project per year
<50	2
51-100	3
101-150	4
151-250	5
251-350	6
351-500	9
>500	12

Projects funded by the FRGP that are not authorized under the RGP (i.e., they have undergone separate consultation) or have already been authorized by the RGP in previous years(s) do not count toward the limits described above.

- 9) Each year, all instream projects shall be separated both upstream and downstream from other proposed instream projects by at least 1500 linear feet in fish bearing stream reaches. In non-fish bearing reaches, the distance separating sediment-producing projects will be 500 feet.
- 10) Upon project completion, all exposed soil present in and around the project site shall be stabilized within 7 days. Soils exposed by project operations shall be mulched to prevent sediment runoff and transport. Mulches shall be applied so that not less than 90% of the disturbed areas are covered. All mulches, except hydro-mulch, shall be applied in a layer not less than two (2) inches deep. Where feasible, all mulches shall be kneaded or tracked-in with track marks parallel to the contour, and tackified as necessary to prevent

excessive movement. All exposed soils and fills, including the downstream face of the road prism adjacent to the outlet of culverts, shall be reseeded with a mix of native grasses common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment.

- 11) Soil compaction shall be minimized by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed and less compaction of disturbed areas.
- 12) Disturbed soils shall be decompacted at project completion as heavy equipment exits the construction area.
- 13) At the completion of the project, soil compaction that is not an integral element of the design of a crossing should be de-compacted.

VII. GREENHOUSE GAS EMISSIONS

No specific mitigation measures are required. Re-vegetation practices will help offset the short term, less than significant, greenhouse gas emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS

The project will not create a significant hazard to the public or the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant, or of an accidental spark from equipment igniting a fire. The potential for these impacts will be reduced to a less than significant level through implementation of the following mitigation measures:

- 1) Heavy equipment that will be used in these activities will be in good condition and will be inspected for leakage of coolant and petroleum products and repaired, if necessary, before work is started.
- 2) When operating vehicles in wetted portions of the stream channel, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, the responsible party shall, at a minimum, do the following:
 - a) check and maintain on a daily basis any vehicles to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat;
 - b) take precautions to minimize the number of passes through the stream and to avoid increasing the turbidity of the water to a level that is deleterious to aquatic life; and
 - c) allow the work area to "rest" to allow the water to clear after each individual pass of the vehicle that causes a plume of turbidity above background levels, resuming work only after the stream has reached the original background turbidity levels.
- 3) All equipment operators shall be trained in the procedures to be taken should an accident occur. Prior to the onset of work, DFG shall ensure that the grantee has prepared a Spill Prevention/Response plan to help avoid spills and allow a prompt and effective response should an accidental spill occur. All workers shall be informed of the importance of preventing spills. Operators shall have spill clean-up supplies on site and be knowledgeable in their proper deployment.

- 4) All activities performed in or near a stream will have absorbent materials designed for spill containment and cleanup at the activity site for use in case of an accidental spill. In an event of a spill, work shall cease immediately. Clean-up of all spills shall begin immediately. The responsible party shall notify the State Office of Emergency Services at 1-800-852-7550 and the DFG immediately after any spill occurs, and shall consult with the DFG regarding clean-up procedures.
- 5) All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet from any riparian habitat or water body and place fuel absorbent mats under pump while fueling. The USACE and the DFG will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the DFG will ensure that the grantee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- 6) Location of staging/storage areas for equipment, materials, fuels, lubricants, and solvents, will be located outside of the stream's high water channel and associated riparian area. The number of access routes, number and size of staging areas, and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action. To avoid contamination of habitat during restoration activities, trash will be contained, removed and disposed of throughout the project.
- 7) Petroleum products, fresh cement, and other deleterious materials shall not enter the stream channel.
- 8) Stationary equipment such as motors, pumps, generators, compressors, and welders, located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans.
- 9) No debris, soil, silt, sand, bark, slash, spoils, sawdust, rubbish, cement, or concrete or washings thereof; asphalt, paint, or other coating material; oil or petroleum products; or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area and disposed of in a lawful manner.
- 10) All internal combustion engines shall be fitted with spark arrestors.
- 11) The grantee shall have an appropriate fire extinguisher(s) and fire fighting tools (shovel and axe at a minimum) present at all times when there is a risk of fire.
- 12) Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire.
- 13) The grantee shall follow any additional rules the landowner has for fire prevention.
- 14) The potential for mercury contamination is largely predicted by the presence of historic hydraulic gold mines and mercury (cinnabar) mines (California's Abandoned Mines: A Report on the Magnitude and Scope of the Issue in the State, DOC 2000). Therefore, only a few limited areas within the geographic scope of this grant program have any potential for gravels contaminated with elemental mercury, they are: Middle Klamath River, Salmon River, Scott River, and the Lower Middle and Upper Trinity River. (Though studies by the USGS failed to find significant levels of methyl mercury near these mines.)
 - a) Given the limited geographical potential for encountering mercury contamination (from historic mining) within the geographic scope, and the limited number of projects within

these areas that will either disturb the channel bottom or import gravels for instream restoration; the following avoidance and mitigation measure will be adhered to: any gravel imported from offsite shall be from a source known to not contain historic hydraulic gold mine tailings, dredger tailings, or mercury mine waste or tailings.

IX. HYDROLOGY AND WATER QUALITY

- 1) Instream work shall be conducted during the period of lowest flow.
- 2) Before work is allowed to proceed at a site, DFG shall inspect the site to assure that turbidity control measures are in place.
- 3) The waste water from construction area shall be discharged to an upland location where it will not drain sediment-laden water back to stream channel.
- 4) For projects within the USACE San Francisco District, if instream work liberates a sediment wedge, 80% of the wedge shall be removed before the sediment is liberated. The required amount can be modified if NOAA or DFG hydrologists or hydraulic engineers agree that removing a smaller amount will better protect and enhance fish habitat in the area of the project (e.g., leaving some sediment to replenish areas downstream that lack suitable substrate volume or quality).
- 5) To control erosion during and after project implementation, DFG shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board.
- 6) Sediment-laden water caused by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area. Silt fences or other detention methods shall be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.
- 7) If DFG determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective DFG approved sediment control devices are installed and/or abatement procedures are implemented.
- 8) Poured concrete shall be excluded from the wetted channel for a period of two weeks after it is poured. During that time the poured concrete shall be kept moist, and runoff shall not be allowed to enter flowing stream. Commercial sealants shall be applied to the poured concrete surface where concrete cannot be excluded from the stream flow for two weeks. If sealant is used, water shall be excluded from the site until the sealant is dry.
- 9) If the DFG determines that turbidity/siltation levels resulting from an activity or activities constitute a threat to aquatic life, all activities associated with the turbidity/siltation shall cease until effective DFG approved sediment control devices are installed and/or abatement procedures are implemented.
- 10) Prior to use, all equipment shall be cleaned to remove external oil, grease, dirt, or mud. Wash sites shall be located in upland locations so that dirty wash water does not flow into the stream channel or adjacent wetlands.
- 11) Water conservation projects that include water storage tanks and a Forbearance Agreement, for the purpose of storing winter water for summer use, require registration of water use pursuant to the Water Code §1228.3, and require consultation with DFG and compliance with all lawful conditions required by DFG. Diversions to fill storage facilities

during the winter and spring months shall be made pursuant to a Small Domestic Use Appropriation (SDU) filed with the State Water Resources Control Board (SWRCB). DFG will review the appropriation of water to ensure fish and wildlife resources are protected. The following conditions shall then be applied:

- a) Seasonal Restriction: No pumping is allowed when stream flow drops below 0.7 cubic feet per second (cfs) except as permitted by DFG in the event of an emergency.
- b) Bypass Flows: Pumping withdrawal rates shall not exceed 5% of stream flow. If DFG determines that the streamflow monitoring data indicate that fisheries are not adequately protected, then the bypass flows are subject to revision by DFG.
- c) Cumulative Impacts: Pumping days shall be assigned to participating landowner(s) when streamflows drop below 1.0 cfs to prevent cumulative impacts from multiple pumps operating simultaneously.
- d) Pump Intake Screens: Pump intake screens shall comply with the "2000 California Department of Fish and Game Screening Criteria"* for California streams that provide habitat for juvenile coho, Chinook and steelhead. The landowner shall be responsible for annual inspection and maintenance of screens. Additionally, the landowner shall be responsible for cleaning screens as needed to keep them free of debris and ensure that screen function complies with the criteria specifications.
- e) These conditions do not authorize incidental take of any species, removal of riparian vegetation, or bed, bank or channel alteration.
- f) DFG shall be granted access to inspect the pump system. Access is limited to the portion of the landowner's real property where the pump is located and those additional portions of the real property which must be traversed to gain access to the pump site. Landowners shall be given reasonable notice and any necessary arrangements will be made prior to requested access including a mutually-agreed-upon time and date. Notice may be given by mail or by telephone with the landowner or an authorized representative of the landowner. The landowner shall agree to cooperate in good faith to accommodate DFG access.

* Fish Screening Criteria are from "State of California Resources Agency Department of Fish and Game Fish Screening Criteria, June 19, 2000." The "approach velocity" shall be calculated according to Section 2C "Screens which are not Self Cleaning." These screening criteria are available at <http://iep.water.ca.gov/cvffrt/DFGCriteria2.htm>.

X. LAND USE AND PLANNING

No specific mitigation measures are required for land use and planning.

XI. MINERAL RESOURCES

No specific mitigation measures are required for mineral resources.

XII. NOISE

Personnel shall wear hearing protection while operating or working near noisy equipment (producing noise levels ≥ 85 db, including chain saws, excavators and back hoes). No other specific mitigation measures are required for noise.

XIII. POPULATION AND HOUSING

No specific mitigation measures are required for population and housing.

XIV. PUBLIC SERVICES

No specific mitigation measures are required for public services.

XV. RECREATION

No specific mitigation measures are required for recreation.

XVI. TRANSPORTATION/TRAFFIC

The project will not affect transportation/traffic, because erosion control and culvert replacement projects will occur in wildland/rural sites with very little use. There is a potential that culvert replacement at some work sites could temporarily interfere with emergency access. This potential impact will be avoided through implementation of the following mitigation measure at any sites where emergency access might be necessary:

- 1) During excavation for culvert replacement, the grantee shall provide a route for traffic around or through the construction site.

XVII. UTILITIES AND SERVICE SYSTEMS

No specific mitigation measures are required for utilities and service systems.

SECTION 2: MONITORING AND REPORTING

DFG shall implement the following measures to ensure that individual restoration projects authorized annually through the RGP (RGP12 and RGP78) will minimize take of listed salmonids, monitor and report take of listed salmonids, and to obtain specific information to account for the effects and benefits of salmonid restoration projects authorized through the RGP.

- 1) DFG shall provide USACE, NOAA and USFWS notification of projects that are authorized through the RGP. The notification shall be submitted at least 90 days prior to project implementation and must contain specific project information including; name of project, type of project, location of project including hydrologic unit code (HUC), creek, watershed, city or town, and county.

- 2) DFG Grant Manager shall inspect the work site before, during, and after completion of the action item, to ensure that all necessary mitigation measures to avoid impacts are properly implemented.
- 3) DFG shall perform implementation monitoring immediately after the restoration activity is completed to ensure that projects are completed as designed.
- 4) DFG shall perform effectiveness/validation monitoring on at least 10 percent of restoration projects funded annually. A random sample, stratified by project type and region, shall be chosen from the pool of new restoration projects approved for funding each year. Pre-treatment monitoring shall be performed for newly selected projects, and post-treatment monitoring will be performed within three years following project completion.
- 5) Current monitoring forms and instructions used by DFG for the implementation monitoring and effectiveness monitoring are available online at:
http://ftp.dfg.ca.gov/Public/FRGP/Qualitative_Monitoring_Forms/. DFG shall submit a copy of the annual report, no later than March 1 annually to NOAA.
- 6) The DFG annual report to NOAA shall include a summary of all restoration action items completed during the previous year. The annual report shall include a summary of the specific type and location of each project, stratified by individual project, 5th field HUC and affected species and evolutionary significant unit (ESU)/Distinct Population Segment (DPS). The report shall include the following project-specific summaries, stratified at the individual project, 5th field HUC and ESU level:
 - a) A summary detailing fish relocation activities; including the number and species of fish relocated and the number and species injured or killed. Any capture, injury, or mortality of adult salmonids or half-pounder steelhead shall be noted in the monitoring data and report. Any injuries or mortality from a fish relocation site that exceeds 3.0% of the affected listed species shall have an explanation describing why.
 - b) The number and type of instream structures implemented within the stream channel.
 - c) The length of stream bank (feet) stabilized or planted with riparian species.
 - d) The number of culverts replaced or repaired, including the number of miles or restored access to unoccupied salmonid habitat.
 - e) The distance (miles) of road decommissioned.
 - f) The distance (feet) of aquatic habitat disturbed at each project site.
- 7) DFG shall incorporate project data into a format compatible with the DFG/NOAA/Pacific Fisheries Management Council Geographic Information System (GIS) database, allowing scanned project-specific reports and documents to be linked graphically within the GIS database.
- 8) For Marin, Napa, Santa Cruz, and Sonoma Counties, DFG shall submit an annual report due by January 31 (RGP12) of each year of implemented projects to the US Fish and Wildlife Service Office, 2800 Cottage Way, Sacramento, California 95825. The report must include:
 - a) A table documenting the number of California freshwater shrimp or California red-legged frogs killed, injured, and handled during each FRGP project that utilizes the USACE authorization.
 - b) A summary of how the terms and conditions of the biological opinions (file no. 81420-2009-I-0748-1 and 1-103-F-273) and the protective measures by the USACE and DFG worked.

- c) Any suggestions of how the protective measures could be revised to improve conservation of this species while facilitating compliance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).
- 9) For Santa Barbara and San Luis Obispo Counties, DFG shall submit an annual report due by January 31 (RGP12) and February 28 (RGP78) of each year of implemented projects to the US Fish and Wildlife Service Office, 2493 Portola Road, Suite B, Ventura, California 93003. The report must include:
 - a) A table documenting the number of red-legged frogs killed, injured, and handled during each FRGP project that utilizes the USACE authorization.
 - b) A summary of how the terms and conditions of the biological opinions (file no. 81440-2009-F-0387 and 2008-F-0441) and the protective measures by the USACE and DFG worked.
 - c) Any suggestions of how these protective measures could be revised to improve conservation of this species while facilitating compliance with the Act.
- 10) DFG shall submit annual reports on July 1 of each year to the 401 Program Managers of the State Water Resources Control Board and the appropriate Regional Water Quality Control Boards documenting work undertaken during the preceding year and identifying for all such work:
 - a) Project name and grant number;
 - b) Project purpose and summary work description;
 - c) Name(s) of affected water body(ies);
 - d) Latitude/longitude in decimal degrees to at least four decimals;
 - e) For projects completed during the year:
 - 1) The type(s) of receiving (affected) water body(ies) (e.g. at minimum: river/streambed, lake/reservoir, ocean/estuary/bay, riparian area, or wetland type); and
 - 2) The total quantity in acres of each type of receiving water body temporarily impacted, and permanently impacted;
 - f) For each water body type affected, the quantity of waters of the U.S. temporarily and permanently impacted. Fill/excavation discharges shall be reported in acres and fill/excavations discharges for channels, shorelines, riparian corridors, and other linear habitat shall also be reported in linear feet;
 - g) Actual construction start and end-dates;
 - h) Whether the project is on-going or completed.
 - i) Copies of reports documenting the following monitoring activities:
 - 1) Post-project monitoring immediately after the activity is completed to ensure that projects are completed as designed; and
 - 2) Effectiveness monitoring on a random subset of 10% of the projects, within one to three years after project completion.

- 11) DFG shall report any previously unknown historic archeological and paleontological remains discovered at a site to the USACE as required in the RGP. This information will also be provided to the Native American Heritage Commission, 915 Capitol Mall, Sacramento, CA 95814.
- 12) Pursuant to RGP78, DFG shall monitor and maintain the structures or work conducted at a given site for at least three years after construction to ensure the integrity of the structure and successful growth of the planted vegetation.
- 13) DFG shall allow representatives of USACE to inspect the authorized activities at any time deemed necessary to ensure that they are being or have been accomplished with the terms and conditions of the RGP.
- 14) Pursuant to RGP78, DFG shall notify the USACE annually of the year's projects and shall not begin the activity until after receiving a written Notice to Proceed (NTP). The NTP may include site specific special conditions to avoid and minimize adverse impacts to waters of the U.S and shall be valid for the duration of the RGP78 unless there is a change in the project's scope of work.